

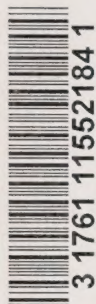


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FRESHWATER INITIATIVE

DEPARTMENT OF FISHERIES AND OCEANS

DISCUSSION DOCUMENT

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SUMMARY

Fresh water plays an important role in Canada's environment, society, and economy, in such vital areas as: marine transportation in the Great Lakes and St. Lawrence Seaway; food and cultural benefits for aboriginal communities; freshwater commercial fisheries, and; the recreational use of fresh waters for fishing, boating, or other uses. Fish habitat protection is essential to the maintenance of fisheries benefits, and is significant to the maintenance of the healthy environment so valued by Canadians.

Circumstances have changed considerably since 1988 when DFO last reviewed its freshwater fisheries roles. The Canadian Coast Guard (CCG) has merged with DFO, expanding the department's mandate into areas of marine transportation and safety, search and rescue, environmental response and recreational boating. DFO has also undergone major changes in programs and program delivery as a result of the 1995 Federal Government Program Review. In addition, forces external to the department have affected the evolution of its role in fresh waters. Some of these are government wide, and are outlined in the federal discussion document, *Towards a Federal Freshwater Strategy* (July 1998). They include changing governance, fiscal reforms, federal-provincial harmonization and co-operation, and the growing complexity of freshwater issues internationally.

At the May 1998 meeting of the National Conference of Fisheries Ministers (NCFM), Ministers discussed the importance of a shared vision for the management of freshwater resources, and of continued co-operation and collaboration by federal, provincial and territorial partners. They underscored the need to confirm federal and provincial and territorial roles, and provide a renewed understanding of the national vision, role, issues, goals, objectives and approaches to freshwater fisheries. At that meeting the Minister of Fisheries and Oceans (DFO) agreed to lead, in partnership with the provinces and territories, in the development of a freshwater fisheries strategy. As a first step, the Minister committed to develop a statement of DFO's freshwater roles and responsibilities.

The main objective of this document is to clarify DFO's ongoing involvement in fresh waters in this new era of freshwater management. It reflects extensive effort by a national DFO working group, involving representation and input from all of DFO sectors and regions. It has been through several iterations in an effort to ensure that the information it presents is factual and consistent. Some of the issues it addresses are still evolving. On the delegation of habitat management responsibilities to inland provinces, for instance, talks are ongoing between federal and provincial officials. On a number of issues, DFO had to make difficult decisions in order to achieve the priorities outlined by the Government of Canada.

This discussion document is organized into three main parts:

1. DFO roles and responsibilities in fresh waters;
2. DFO freshwater principles, goals and strategies;
3. Major freshwater issues and future directions.

It provides one building block for a renewed national vision for fresh waters. Provinces and Territories will have the opportunity to comment on this document. Thereafter, it is hoped that with the agreement of Ministers, all governments will cooperate in the development of a shared, national strategy for fresh waters in Canada.

1. Freshwater Roles and Responsibilities

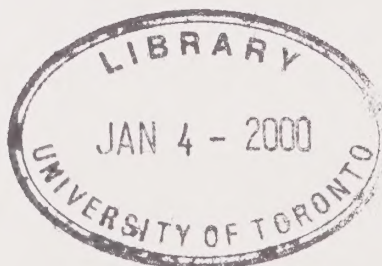
There have been fundamental changes in DFO's freshwater programs and services. At the same time, the compendium of DFO legislation, federal legislation and DFO formal agreements relevant to fresh waters indicates ongoing roles and responsibilities.

The department's legislated mandate in fresh waters is:

- management and control of the fisheries;
- conservation, protection and restoration of fish and fish habitat;
- prevention, preparedness and response to pollution incidents;
- search and rescue, recreational boating, marine communications and traffic services;
- icebreaking;
- establishment of marine aids to navigation;
- protection of navigable waters; and
- administration of public harbour infrastructure in support of commercial fishing and transient boating.

The DFO mandate in fresh waters is refined by Policy, e.g. the *Policy for the Management of Fish Habitat*, and agreements with provincial and territorial governments and other federal departments.

The DFO role in fresh waters continues to be refined with provinces, territories, other federal departments and other groups. Delegation arrangements have shaped and influenced the DFO role in fresh waters, especially in Quebec and the inland Provinces. While the historical, constitutional, economic and social factors underlying delegation and other agreements can be somewhat complex, shared stewardship of freshwater resources results.



2. Freshwater Principles, Objectives and Goals

DFO freshwater activities adhere to and advance the vision stated in the departmental planning framework:

Safe, healthy, productive waters and aquatic ecosystems, for the benefit of present and future generations, by maintaining the highest possible standards of:

Service to Canadians

*Marine Safety
And
Environmental
Protection*

Scientific Excellence

*Conservation
and
Sustainable Resource
Use*

In pursuit of this vision, the department has the following long-term goals:

- Managing and protecting fisheries resources
- Protecting the marine and freshwater environment
- Understanding the oceans and aquatic environments
- Maintaining marine safety
- Facilitating maritime commerce and ocean development

The principle of shared stewardship is a cornerstone to the achievement of DFO's objectives in fresh waters. Partnerships with provinces and territories, other federal agencies and with other groups are essential. Co-operation and collaboration are important tools in achieving freshwater goals: to be effective, they do require agreed upon standards.

DFO's freshwater activities adhere to the department's sustainable development principles as stated in *Sustainable Development – A Framework for Action*: shared stewardship, integrated management, an ecosystems approach, continuous improvement, the precautionary approach, and pollution prevention.

In order to integrate effectively approaches in fresh and marine waters, consistency is also required with the principles of sustainable development, integrated management and precautionary approach, as articulated in *Toward Canada's Oceans Strategy*.

DFO's freshwater activities complement the national objective, principles and strategies outlined in the discussion document *Towards a Federal Freshwater Strategy*. Of particular relevance are the principles of partnership approaches, shared responsibility, ecosystem approach and the precautionary principle. Also relevant are the national strategies for partnership with provinces and territories, science and technology, public participation and community action, legislation and regulation and market instruments.

3. Major Freshwater Issues and Future Directions

The DFO working group examined 13 subject areas with freshwater content and identified issues and future directions, in the interest of ensuring the link between planning and action.

- **Confirmation of Fisheries Management Responsibilities**

Fundamental to a shared national vision for fresh waters is confirmation of roles and responsibilities for freshwater fisheries management.

Delegated management in whole for freshwater fisheries in Quebec, the inland provinces, and the Yukon Territory is an example of effective inter-governmental co-operation that provides a clear assignment of authority.

Formal agreements or delegation in part also contribute to the clear assignment of specific authorities. They include trout enhancement in Nova Scotia, New Brunswick, Prince Edward Island, sport fisheries in the Northwest Territories and non-Pacific salmon fisheries in British Columbia. Further changes would require clarification of a number of policy and program issues, and are not proposed at this time.

Land claims settlements in Quebec, Nunavut, the Northwest Territories and the Yukon provide specific roles and responsibilities for public management boards in the management and protection of freshwater fish resources and their supporting habitats.

In Newfoundland, DFO delivers the full federal mandate for fisheries management.

The roles of the federal and provincial governments with respect to freshwater issues involving Aboriginal groups remain a matter of debate. The federal position is that provinces, because of their responsibility for managing freshwater fisheries, have the resulting responsibility to ensure that fisheries management is conducted in a manner consistent with any Aboriginal and treaty rights.

- **Recreational Fisheries**

The DFO role in recreational fisheries has evolved since the 1987 *Canada's Policy for Recreational Fisheries* was prepared. A new policy framework and an articulation of key policy objectives and priorities for recreational fisheries directly managed by the department is required, with emphasis on the resource conservation priority.

DFO is supportive of the national sport fisheries conferences and the national angling survey. New funding arrangements with provinces, territories and the angling community will be required to sustain these national initiatives.

DFO will fulfil co-ordinating commitments to the National Recreational Fisheries Working Group (NRFWG) through September 1999, at which time it is expected that the role will be taken on by another jurisdiction as part of the rotation among all participating governments.

DFO will review the action plan against its sport fish management policy framework to determine NRFWG implementation activities.

- **Community Watershed Management**

Community Watershed Management (CWM) is of increased interest across Canada, for a variety of freshwater fisheries and fish habitat management needs.

CWM is consistent with the current role of DFO. The Department is redefining its relationship with all stakeholders in the Canadian marine and freshwater fisheries. It is now expected that resource users will assume a greater decision-making role in the management of fisheries and their supporting habitats, as well as a greater contribution to sustaining the resource from which they obtain benefits.

DFO is prepared to consider proposals for CWM arrangements for recreational fisheries throughout Atlantic Canada. A major community watershed management planning initiative is underway in the Pacific Region. Other variants and applications, such as community based management in the Canadian Arctic, are also proceeding.

Clearly, there are both potential benefits and challenges for government in implementation of CWM initiatives. Fundamental to this process is actively involving users in the decision making and management process while balancing overall responsibilities for conservation and the public interest.

- **Freshwater Fish Marketing Corporation**

The Freshwater Fish Marketing Corporation (FFMC) is a federal crown corporation established under the *Freshwater Fish Marketing Act* (FFMA) in 1969. The government adopted measures in 1995 to provide a balance between those seeking changes to the FFMC and the majority of fishers who support single desk selling.

The FFMC's operations and mandate will continue to be scrutinized and challenged. The future of the FFMC will likely be influenced by its performance, its acceptability by fishermen, the participating provinces and territory, and the aboriginal community. There will be important impacts from policies of the provincial and federal governments, in particular with respect to fisheries management and the development of alternative economic opportunities in remote, aboriginal communities.

- **Sea Lamprey Control**

The 1955 Convention on Great Lakes Fisheries, which created the Great Lakes Fishery Commission (GLFC), is a bi-national agreement affirming the need for Canada and the United States to collaborate on the protection and the perpetuation of the Great Lakes' fisheries resources. The Convention charges the commission with five major duties, including formulating and implementing a comprehensive sea lamprey control program for the control of the exotic sea lamprey on important fisheries resources.

During 1995, the Canadian federal budget for lamprey control was eliminated as part of the federal Program Review. Since then, the Minister of Fisheries and Oceans has renewed DFO's commitment to the program and restored funding on an interim basis.

DFO recognizes that long-term funding of the Sea Lamprey Control Program must be resolved. There are, however, international and federal-provincial aspects to this issue,

and it would be inappropriate for DFO to commit to a particular level of funding before consultation on funding options have run their course.

- **Fish Habitat Management**

DFO, in co-operation with the provinces and territories, wishes to work together to provide a high level of habitat protection and improve regulatory consistency. This could involve delegation of certain fish habitat management responsibilities to inland provinces. Delegation is not planned at this time where DFO manages fisheries responsibilities.

The federal government will continue to set national standards for fish habitat management; conduct scientific research to provide information for the conservation, restoration and development of fish habitats; and promote and encourage the participation of the public and private sectors and other interests in integrated resource planning and conservation of fish habitats, as articulated in the department's *Policy for the Management of Fish Habitat*.

- **Navigable Protection Waters Act**

DFO intends to amend the *Navigable Waters Protection Act* (NWPA) in the future. The NWPA requires updating in light of increased and competing uses of waterways. There is a need to modernize and streamline the Act and to reduce the administrative burden for all parties. The public will be invited to comment on this initiative at the appropriate time.

- **Introductions and Transfers of Aquatic Organisms**

DFO recognizes the federal government's national and international commitments to protect and conserve biological diversity. Consequently, there is a need for a standardized approach to risk assessment of introductions and transfers.

DFO is currently developing, in consultations with the provinces, territories and the aquaculture industry, a National Policy on Introductions and Transfers of Aquatic Organisms.

- **Exotic Aquatic Species**

Exotic organisms unintentionally introduced and that cause or have the potential to cause harmful effects to native bio-diversity, fish habitats or the well being of native aquatic species are a concern. With the exception of ballast water, there is little in the way of legislation that specifically controls the accidental introduction of exotic organisms into Canada.

Statutory authority for a ballast water management program for prevention was contained in recent amendments to the *Canada Shipping Act*. Bill C15 received Royal Assent on June 11, 1998 and Governor-in-Council authority to regulate ballast water came into force on Oct 31, 1998. Regulations will be written to require effective ballast water management techniques. However significant research is required to study both

the safety aspects and the effectiveness of ballast water management prior to such regulations coming into force.

As a first step in the regulatory process a working group on ballast water was established Nov 4, 1998 under the aegis of the Canadian Marine Advisory Council (CMAC). This working group will be the primary focal point in the development of any new ballast water regulation.

DFO will continue research on the ecological impacts of exotic species.

- **Freshwater Science**

DFO conducts a wide variety of freshwater research in support of its responsibilities for the protection and conservation of fish and fish habitats for species supporting fisheries: one notable distinction is that the department does not undertake research to support fisheries management conducted under delegation arrangements. Work also meets commitments to international and regional initiatives. Examples of this work include environmental science for habitat conservation, restoration and enhancement activities, studies of the role of physical fish habitat on fish production, and stock assessment and research of anadromous and diadromous fish species in coastal areas.

The department will continue to provide science support for fisheries management where DFO directly manages the fisheries, in the context of greatly reduced budgetary resources available following Program Review. Freshwater science support of DFO's habitat management and the provision of expert advice in support of the *Canadian Environmental Assessment Act* (CEAA) will also continue in all regions. In Ontario, DFO will support GLFC funded research into non-chemical methods of controlling sea lamprey.

- **Boating Safety**

The boating community is placing increased demand for services at all government levels and has displayed an interest in becoming involved in defining services and regulatory initiatives appropriate to their needs.

The CCG's Office of Boating Safety will continue to develop boating safety partnership projects to ensure effective program delivery.

- **Small Craft Harbours**

The Small Craft Harbours Branch (SCH) administers a network of public harbours in support of the commercial fishing industry and transient boaters.

Of major significance for fresh waters is that the program is divesting its recreational harbours and inactive/derelict fishing harbours. Also important is the progressive establishment at active fishing harbours of client-run Harbour Authorities who assume the management and day-to-day operation of the harbour in a partnering arrangement with the department.

- **Boundary and Trans-Boundary Initiatives**

DFO Policy, Fisheries Management, Science, and CCG programs contribute to aspects of Canada's obligations for boundary and trans-boundary issues.

DFO will continue to have a role in boundary and trans-boundary matters, protecting Canada's interests and meeting its obligations to the international community under formal treaties and agreements.

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INTRODUCTION

Fresh water plays an important role in Canada's environment, society, and economy. Marine transportation in the Great Lakes and St. Lawrence Seaway is essential to maintaining Canada's economic health and competitiveness, and provides an efficient system of moving freight. Freshwater commercial fisheries and aquaculture operations generated close to \$100 million of landed value in 1995. The recreational use of fresh waters for fishing, boating, or other uses generates significant benefits, both economic and social. In terms of economic impact, recreational fishing alone generates over \$4 billion annually in expenditures. Canadians value the benefits of the environment, and fish habitat protection is integral to the maintenance of these benefits.

The Department of Fisheries and Oceans' (DFO) responsibilities and programs for fresh waters are shared with provincial and territorial governments, as well as with other federal agencies. The multi-jurisdictional nature of freshwater resources leads to a relatively complex management system.

The May 1998 meeting of the National Conference of Fisheries Ministers (NCFM) discussed the importance of a shared vision for the management of freshwater resources, and of continued co-operation and collaboration by federal, provincial and territorial partners. The NCFM underscored the need to confirm federal and provincial and territorial roles, and identified benefits in a renewed understanding of the national vision, role, issues, goals, objectives and approaches to freshwater fisheries. At that meeting DFO agreed to lead, in partnership with the provinces and territories, in the development of a freshwater fisheries initiative.

The Federal Perspective

The Department of Fisheries and Oceans legislated mandate in fresh waters stems from the *Constitution Act*, the *Department of Fisheries and Oceans Act*, the *Fisheries Act*, the *Canada Shipping Act*, the *Navigable Waters Protection Act*, and the *Fishing and Recreational Harbours Act*. These acts give DFO the mandate in fresh waters for:

- management and control of the fisheries;
- conservation, protection, restoration and enhancement of fish and fish habitat; prevention, preparedness and response to pollution incidents;
- search and rescue, recreational boating, marine communications and traffic services; icebreaking;
- establishment of marine aids to navigation;
- protection of navigable waters; and
- provision of public harbour infrastructure in support of commercial fishing and transient boating.

The application of DFO's mandate in freshwaters is refined by DFO Policy e.g. the 1986 *Policy for the Management of Fish Habitat*, and formal agreements with provincial and territorial governments and other departments. The DFO role in fresh waters

continues to be refined with provinces, territories, other federal departments and other groups. Delegation arrangements have shaped and influenced the DFO role in fresh waters, especially in Quebec and the inland Provinces. While the historical, constitutional, economic and social factors underlying delegation and other agreements are somewhat complex, shared stewardship of freshwater resources results.

Two recent actions at the federal level reinforce the importance for DFO of a review of roles and responsibilities on its involvement in fresh waters. First, the 1995 merger of DFO and Canadian Coast Guard significantly increased DFO's freshwater responsibilities and programs. Second, under DFO's 1995 Program Review plan, reductions were made to national programs and their freshwater components, and to some specific freshwater programs in provinces where DFO does not directly manage fisheries resources. Although components of national programs are being reduced according to the Program Review plan, proposed changes to freshwater programs have been re-evaluated and some originally planned reductions have been modified. Against this backdrop of change and the multi-jurisdictional nature of fresh water, clients, partners and stakeholders are asking the department to clarify its role in this area.

There are also government wide forces that have affected the evolution of the department's role in fresh waters. These are outlined in the discussion document, *Towards a Federal Freshwater Strategy* (July 1998). They include changing governance, fiscal reforms, federal-provincial harmonization and cooperation, and the growing complexity of freshwater issues internationally.

The roles and responsibilities of the federal government in fresh water have evolved in a number of fundamental ways, resulting in changes in the business of the federal government, and how it conducts that business. To summarize the discussion paper, the federal government is withdrawing from certain activities; focusing on its core responsibilities, strengthening partnerships with provinces, communities, non-governmental organizations, and the private sector; and adopting innovative methods of alternative service and program delivery.

Provincial-Territorial Perspectives

Provincial and territorial ministers requested a clear enunciation of DFO's role in freshwater at the October 1997 NCFM meeting. They sought clarification of DFO's freshwater strategy and specifically of DFO's role in freshwater habitat, science, recreational fishing (programs and surveys), international program support (e.g. sea lamprey control), and funding between freshwater and marine programs.

The request for clarification was again discussed at the NCFM meeting in May 1998, with Provinces and Territories looking for progress or resolution on this subject. Manitoba tabled a brief, on behalf of the Provinces and Territories, encouraging DFO to initiate a strategy on freshwater fisheries that would permit a clearer understanding of the national vision, role, issues, goals, objectives and approaches to freshwater fisheries.

Manitoba suggested such a strategy should also clearly define the provincial and territorial roles in the management of freshwater fisheries. In turn, it was envisaged that "jurisdictional sub-strategies" could be developed reflecting the diversity of

administrative structures, resources, priorities, needs and opportunities among provinces and territories, and these in turn would provide direction and a framework for a series of negotiated agreements and co-operative frameworks on freshwater fisheries.

Manitoba also suggested initial agreements could focus on issues related to changes in the Fisheries Act, habitat delegation, freshwater fishery science, aquatic introductions and transfers, and freshwater recreational fishing. Subsequent agreements requiring federal participation such as conservation and international issues would follow.

NCFM subjects of primary interest have been fisheries and fish habitat management, although, on occasion topics relating to other aspects of the DFO mandate are raised. For the latter, the Provinces and Territories do participate in other DFO consultation mechanisms, such as the Canadian Marine Advisory Council.

Purpose

This discussion document fulfils the DFO commitment to the May 1998 NCFM. It is organized into three main parts:

- DFO freshwater roles and responsibilities;
- Freshwater principles, objectives and goals;
- Major freshwater issues and directions.

This work provides the federal contribution, and a building block, for a renewed national vision for fresh waters. Provinces and Territories will have the opportunity to prepare a corresponding statement of their roles and responsibilities. Opportunities to advance a national initiative should follow.

Geographic Scope

This discussion document examines DFO activities in non-tidal waters, including major non-tidal activity in the management of anadromous and catadromous species and their habitat. There are difficulties in defining freshwater boundaries within estuaries having fluctuating salinity and reduced tidal influence. In order to proceed, the geographic scope of freshwater was defined in accord with the general statement on inland waters from the Maritime Provinces Fishery Regulations:

"All waters that are upstream of the low-water mark at the time of low water as set out in the Canadian Tide and Current tables published by the Department."

DFO Regions applied this generic definition to their specific circumstance and practice e.g. Pacific Region defined freshwater as being river waters upstream of an imaginary line drawn from headland to headland.

FRESHWATER ROLES AND RESPONSIBILITIES

DFO's roles and responsibilities in fresh waters support five long-term goals identified in the department's plans, policies and programs:

- Managing and protecting fisheries resources
- Protecting the marine and freshwater environment
- Understanding the oceans and aquatic resources
- Maintaining marine safety
- Facilitating maritime commerce and ocean development

DFO's roles and responsibilities are summarized below. DFO legislation, federal legislation and formal agreements relevant to freshwater are described in Annex A.

Managing and Protecting Fisheries Resources

The *British North America Act* (1867), now the *Constitution Act* (1867), vests the legislative authority for the protection and conservation of sea coast and inland fisheries to the Parliament of Canada. In 1868, Parliament enacted the *Fisheries Act* to carry out this responsibility. The Minister of Marine and Fisheries was given the responsibility for the *Fisheries Act*.

Over time, Canada has delegated many freshwater fisheries management responsibilities, in whole or in part, to Provinces and Territories:

- Delegation in whole has taken place in Quebec, Ontario, Manitoba, Saskatchewan and Alberta.
- Delegation in part, for trout enhancement, has taken place in Nova Scotia, New Brunswick and Prince Edward Island.
- Delegation in British Columbia was for the management of trout hatcheries, but informally evolved into management of all non-Pacific salmon species.
- An order-in-council assigns sports fishing revenues and certain sport fishery management responsibilities to the Government of the Northwest Territories.
- Delegation of freshwater fisheries management responsibilities to the Yukon Territory took place in 1989.

Full management responsibility is maintained for all fisheries in Newfoundland.

The federal government maintains exclusive legislative authority under the *Constitution Act* to regulate, protect and conserve all of Canada's fisheries, sea-coast and inland. For the inland fisheries, the Crown (in the right of Provinces) has a proprietary right to most fisheries, so provincial legislatures have the legislative responsibility for regulating how and to whom the fishing rights can be conveyed. Under the assignment of administrative authority, the federal role is limited, with delegation to the provinces of day-to-day matters covered by federal regulations (quotas, gear restrictions, enforcement, licensing). In this regard, the management for inland fisheries management is shared.

Freshwater fisheries management activities include some or all of:

- fisheries policy, planning and legislation
- integrated fishery management plans
- fiduciary responsibilities
- allocation
- licensing
- harvest monitoring
- compliance monitoring and enforcement
- fishing industry analysis
- fisheries management administration

In Newfoundland, Nova Scotia, New Brunswick, and Prince Edward Island, DFO provides for regulatory control of the fisheries under the *Fisheries Act*. In addition to the delegation of trout enhancement, there are significant provincial roles ranging from licensing inland fisheries to research and management programs for non-anadromous freshwater species.

In the fresh waters of the Nunavut and Northwest Territories and the Yukon North Slope, DFO delivers the federal mandate for fisheries management through the above-noted activities, except for the recreational fisheries agreement noted. Through lands claims agreements, freshwater fishery decision-making responsibilities are shared with legislated co-management boards in much of the territory.

DFO Legislation:

- *Fisheries Act* and Regulations pursuant to the Act
- *Freshwater Fish Marketing Act*
- *Great Lakes Fishery Convention Act*

DFO Policy:

- *Policy for Canada's Recreational Fisheries* (1986)

Federal Legislation/Formal Agreements:

- Land Claims Settlement Legislation in Quebec, Northwest, Nunavut and Yukon Territories

Protecting the Marine and Freshwater Environment

Fish Habitat Management

National in scope, DFO's Fish Habitat Management program supports the management of fish habitat by developing conditions, positions or advice necessary to protect fish and

their habitats from the effects of human activities. Habitat management activities include some or all of:

- the review of all projects that may affect fish and fish habitat
- issuing authorizations under the *Fisheries Act*
- environmental assessments through the *Canadian Environmental Assessment Act* (CEAA) process
- compliance monitoring and enforcement
- effectiveness monitoring
- habitat improvement
- public information and education
- integrated resource planning

DFO Legislation:

- *Fisheries Act* and Regulations pursuant to the Act
- *Great Lakes Fishery Convention Act*

DFO Policy:

- The DFO *Policy for the Management of Fish Habitat* establishes the goal of “net gain” and “no net loss” as the guiding principle for fish habitat

Federal Legislation/Formal Agreements:

- *International Boundary Waters Treaty Act*
- Canada-British Columbia Agreement on the Pacific Salmon Fishery
- Canada-British Columbia Agreement on Environmental Assessment Co-operation
- Canada-British Columbia Agreement on Spill Response
- Canada-Ontario Fisheries Agreement
- Canada-Yukon Accord for Freshwater Fisheries Management
- Canada-USA Great Lakes Water Quality Agreement
- *Canadian Environmental Assessment Act*
- DOE agreement for administration of pollution prevention provisions of *Fisheries Act*
- Land Claims Settlement Legislation in Quebec, the Northwest, Nunavut and Yukon Territories

Navigable Waters Protection

National in scope, the Canadian Coast Guard (CCG) administers and enforces the *Navigable Waters Protection Act* (NWPA), thereby providing for:

- protection of the public right to navigation;

- regulating interference to navigation created by any work in, on, over, or under a navigable waterway, such as bridges, dams, ferry cables etc. through a construction approval process;
- allowing removal of obstructions to navigation; and
- triggering environmental assessments under the *Canadian Environmental Assessment Act*, under specific conditions listed in the Law List Regulations.

DFO Legislation:

- *Navigable Waters Protection Act*

Environmental Response

The CCG mandate is “to ensure the safe and environmentally responsible use of Canada’s waterways, to support understanding and management of ocean resources, to facilitate the use of our waters for shipping, recreation and fishing, and to provide marine expertise in support of Canada’s domestic and international interests”.

With respect to the safe and environmentally responsible use of Canada’s waterways, CCG is the lead agency with the responsibility for ensuring response to mystery spills, offshore spills and for spills north of 60°N latitude. CCG is also responsible for ensuring the thoroughness of industry clean-up operations for ship-source spills, monitoring the effectiveness of the regime and for providing back-up preparedness and response for spills that go beyond industry capability, or if they are unwilling to respond.

The general public, commercial shippers, the fishing industry and other government departments as well as marine trades and industry depend on CCG to play a lead role in ensuring appropriate measures are taken to reduce the adverse effect of pollution incidents on the marine environment. CCG provides expertise and equipment to local and national governments and provides a joint response to international pollution incidents.

Federal Legislation/Formal Agreements:

- *Canada Shipping Act*
- Canada-United States Joint Marine Pollution Contingency Plan (1998 Revised)
- DOE agreement for the administration of pollution prevention provisions of the *Canada Shipping Act*
- International Convention for the Prevention of Pollution from Ships (MARPOL 73/78)
- International Convention on Oil Pollution Preparedness, Response and Co-operation (1990)

Vessel Screening and Traffic Management

National roles and responsibilities within the freshwater environment that address CCG’s goal of ensuring the safe and environmentally responsible use of Canada’s waterways safety also include:

- Distress Communications

- Broadcast Services
- Vessel Screening
- Traffic Management

Federal Legislation/Formal Agreements:

- *Canada Shipping Act*

Introductions and Transfers of Aquatic Organisms

The primary federal responsibility for controlling the introduction and transfer of aquatic organisms (deliberate introductions and transfers: inadvertent introductions are addressed under the following section) rests in the habitat protection provisions of the *Fisheries Act* and specific regulations made pursuant to the *Fisheries Act*. These regulations include the Fish Health Protection Regulations and Fishery (General) Regulations. Specific provincial fishery regulations (e.g., Maritimes General Regulations S. 56, Alberta Fishery Regulations), which are made pursuant to the *Fisheries Act* but which are administered by the provinces, also have provisions for controlling the introduction and transfer of aquatic organisms.

Article 8 of the International Convention on Biological Diversity, ratified by Canada in 1992, identifies preventing the introduction of, controlling or eradicating alien organisms which threaten ecosystems, habitats or species as essential for maintaining biodiversity.

DFO Legislation:

- *Fisheries Act* and Regulations pursuant to the Act

Federal Legislation/DFO Formal Agreements:

- *International Boundary Waters Treaty Act*
- Canada/USA Great Lakes Water Quality Agreement
- International Convention on Biological Diversity

Exotic Aquatic Species

Transport Canada Marine Safety provides regulatory input related to the shipboard safety implications of ballast water management and is responsible for compliance monitoring. A memorandum of agreement between Transport Canada and DFO assigns the lead responsibility to DFO for ballast water guidelines, the development of future regulations and ongoing monitoring of the program. CCG has the lead within DFO: Habitat Management has key interests and works with CCG on this subject.

In 1989, Canada adopted guidelines for the control of ballast water discharges from ships for the Great Lakes. These guidelines have since been revised on several occasions. DFO officials serve on an international committee under the International Maritime Organization to prepare new, stricter guidelines. Once finalized, all vessels engaged in international trade will be subject to these new guidelines.

Federal Legislation/DFO Formal Agreements:

- *Canada Shipping Act*
- *International Boundary Waters Treaty Act*
- Canada/United States Great Lakes Water Quality Agreement
- International Convention on Biological Diversity

Fish Health

National in scope, DFO provides fish health diagnostic, advisory and consultative services to private and public fish hatcheries, and for fish kills in the wild. DFO roles include provision of the Fish Health Protection Regulations of the *Fisheries Act*, Fish Health official services (e.g. certification inspections), and administering regional Fish Health protection regulations. The program also administers the Regional Fish Health Policies under the Fisheries General Regulations, and the fish health (quarantine/isolation) aspects of Section 4 finfish transfers.

DFO Legislation:

- *Fisheries Act* and General Regulations Pursuant to the Act

Federal Legislation and DFO Formal Agreements:

- Regional Fish Health Policies
- Office International des Épizooties (OIE) Aquatic Animal Health Code

Understanding the Oceans and Aquatic Resources

Freshwater Science

The overall mission for DFO Science is to provide timely and reliable scientific information and advice in support of the conservation, protection, and sustainable utilization of Canada's fishery resources and the protection and conservation of aquatic habitat. Information and advice to governments and industry, based on the findings of process-oriented research, support the objectives for resource conservation and protection of aquatic environments. Major areas of freshwater activity include:

- environmental science for habitat conservation, restoration and enhancement
- impacts of toxic chemicals on fish and food chains
- freshwater input to coastal areas as a land based source of pollutants
- effects of nutrients and exotic species on fish communities
- impacts of development on fish and physical fish habitat
- role of physical fish habitat on fish production
- stock assessment and research of diadromous fish species in the Maritime Provinces

- stock assessment of Pacific salmon in freshwater migration and spawning areas
- Arctic freshwater stock assessment and Arctic freshwater stock assessment research

DFO Legislation:

- *Fisheries Act* and General Regulations pursuant to the Act
- *Great Lakes Fishery Convention Act*
- *Oceans Act*

Federal Legislation/DFO Formal Agreements:

- Canada/United States Great Lakes Water Quality Agreement
- Land Claims Settlement Legislation in Quebec, NWT and Yukon Territories
- Memorandum of Understanding with Manitoba, Saskatchewan and Alberta on prioritizing fisheries science activities in the Prairie Provinces
- North Atlantic Salmon Conservation Organization
- Provincial, national and international agreements and acts to control emissions of pollutants and deposition of acid rain

Maintaining Marine Safety

Canadian Coast Guard

National roles and responsibilities within the freshwater environment that address the CCG's goal of maintaining maritime safety include:

- Boating Safety
- Distress Communications
- Broadcast Services
- Vessel Screening
- Traffic Management
- Icebreaking
- Flood Control
- Marine Emergency Preparedness
- Enforcement
- Receiver of Wrecks

DFO Legislation:

- *Oceans Act*
- *Navigable Waters Protection Act*

Federal Legislation/Formal Agreements:

- *Canada Shipping Act*

Hydrography

The Canadian Hydrographic Service (CHS) has the mandate to measure and describe the physical features (water depth, bottom morphology, bottom type and composition, tides, water levels, currents and shoreline features) of Canada's navigable waters with special emphasis on elements that affect safe and efficient navigation.

CHS compiles, publishes, updates and maintains accurate charts, sailing directions and other navigational information. These products are continually updated through Notices to Mariners/Shipping and New Editions to incorporate new information. Based on major acquisitions of electronic chart technology by the commercial shipping companies operating in fresh waters, considerable effort and resources have been directed towards the production and maintenance of electronic chart products.

Areas of responsibility for hydrographic surveys and charting in fresh waters include the Great Lakes system and the freshwater portion of the St. Lawrence River, as well as other major inland navigable fresh waters.

Facilitating Maritime Commerce and Ocean Development

CCG Marine Navigation Service

National roles and responsibilities within the freshwater environment that address CCG's goal of facilitating maritime commerce include the control, management and forecast of water-levels in major waterways, and the management and control of ice cover in commercial waterways.

Federal Legislation/Formal Agreements:

- *Canada Shipping Act*
- United States Coast Guard/Canadian Coast Guard International Treaty for Joint Ice Breaking in the Great Lakes

Small Craft Harbours

The Small Craft Harbours Program operates under the *Fishing and Recreational Harbours Act* and Regulations. The Program provides a network of safe and publicly accessible harbours serving commercial fishers, charter fishers, and recreational boaters, seasonal and transient alike.

DFO Legislation:

- *Fishing and Recreational Harbours Act*

FRESHWATER PRINCIPLES, OBJECTIVES AND GOALS

One purpose of this work is to elaborate the framework and guiding principles for DFO in fresh waters.

Three DFO initiatives are relevant for this purpose:

- DFO Vision
- DFO Sustainable Development Strategy
- DFO Ocean Management Strategy.

There is also a major federal government-wide initiative, currently in public consultation, which will provide overall objectives, principles and strategies for the federal government in fresh waters:

- The Federal Freshwater Strategy

Environment Canada is preparing the Federal Freshwater Strategy, as the lead federal co-ordinating agency in fresh waters. DFO is supportive and is participating in the development of the strategy.

DFO Vision

The department has developed a new vision:

Safe, healthy, productive waters and aquatic ecosystems, for the benefit of present and future generations, by maintaining the highest possible standards of:

Service to Canadians

*Marine Safety
And
Environmental
Protection*

Scientific Excellence

*Conservation
and
Sustainable Resource
Use*

In pursuit of this vision, the department is committed to the following five long-term goals:

- **Managing and protecting fisheries resources.** Conservation is the priority. The goal is to conserve Canada's fisheries resources to ensure that they are used sustainably in a self-reliant fishery. In pursuit of this goal in fresh waters, the important roles of the provinces and territories must be recognized. Fisheries management must also be conducted in a manner consistent with Aboriginal and treaty rights. Effective regulatory enforcement and management of harvesting capacity are essential to the long-term objective of sustainable conservation. As well, it is essential that effective international arrangements be in place that will safeguard resources under international treaties.

- **Protecting the marine and freshwater environment.** The department's goal is to protect marine and freshwater environments and, thus, to support sustainable fisheries. To achieve this goal, DFO must take an approach that includes working with provinces and territories to manage and protect freshwater fish habitat, and to reduce the effect of pollution on marine ecosystems.
- **Understanding the oceans and aquatic resources.** The department's goal is to improve, apply and communicate to all Canadians knowledge about Canada's oceans and its marine and freshwater fisheries resources. This knowledge will support the activities of clients, partners and DFO's operational branches.
- **Maintaining marine safety.** The department's goal is to continually improve safety in Canada's waterways by reducing the number and severity of collisions and groundings, helping people in distress and in danger, and preventing loss of life and damage to property.
- **Facilitating maritime commerce and ocean development.** The Department's goal is to provide the policy, regulatory framework and operational services that support commercially sustainable maritime industries. DFO also provides the Department of Foreign Affairs and International Trade with scientific and technical support.

Sustainable Development – A Framework for Action

The department tabled its sustainable development strategy, *Sustainable Development – A Framework for Action*, in December 1997, providing the goals, objectives, and outputs that will be used to manage this agenda.

The Framework for Action is guided by the following principles:

- | | |
|--------------------------|--------------------------|
| • Integrated approach | • ecosystem approach |
| • continuous improvement | • precautionary approach |
| • shared stewardship | • pollution prevention |

For DFO, these principles are reflected in the business lines and its daily activities. Consequently, the sustainable development goals identified in the Framework for Action closely follow and support the goals of the overall DFO business agenda.

The Framework identifies clear goals that address the social, economic, and environmental challenges involved in implementing the department's initial sustainable development strategy.

In this context, six goals set the foundation for DFO's sustainable development strategy, divided into two groups. The first two goals are related to DFO's physical operations and internal decision-making, while the remaining four goals are related to DFO business lines:

- **Goal 1- Greening our operational activities** - Integrating sustainable development principles into daily operational activities.

- **Goal 2 - Making green-smart decisions** – Integrating sustainable development objectives and outputs into daily decision-making activities.
- **Goal 3 - Understanding our oceans and aquatic ecosystems** - Acquiring, applying and communicating knowledge on Canada's oceans, and freshwater resources.
- **Goal 4 - Managing and protecting our fisheries resources and maritime environment resources** - Managing, protecting and allocating living aquatic resources that support self-reliant fisheries; and achieving an integrated, coherent approach to the protection of the marine environment and freshwater fish habitat.
- **Goal 5 - Maintaining maritime safety** - Improving safety in the marine and freshwater environment; and responding to marine environmental protection requirements.
- **Goal 6 - Facilitating maritime trade, commerce and ocean development** - Supporting maritime industries while expanding maritime trade, including trade in fish and fish products, in a sustainable manner.

Oceans Agenda

With the coming into force in 1997 of the *Oceans Act*, the responsibility to lead the development and implementation of Canada's Oceans Strategy rests with the Minister and the Department. This is a formidable challenge. An oceans strategy is needed to replace the current fragmented approach to ocean governance with a co-ordinated framework to improve understanding of and protect the integrity of the ocean ecosystem, to optimize the potential of the oceans, and to engage the public in the sustainable use of coastal resources.

The Oceans Strategy will set the stage for many oceans activities involving not only DFO, but also other federal institutions involved with the oceans. Oceans activities and their management must be premised on co-operation among stakeholders and governments. The discussion document *Toward Canada's Oceans Strategy* proposes the principles of:

- sustainable development;
- integrated management of activities in estuarine, coastal and marine waters, and;
- the precautionary approach.

Federal Freshwater Strategy

Environment Canada (DOE), the lead federal co-ordinating agency in fresh waters, has embarked upon the development of a Federal Freshwater Strategy. The Strategy is being prepared with the collaboration of central agencies and 11 federal departments, including DFO, with responsibilities related to fresh water. The July 1998 discussion document "*Towards a Federal Freshwater Strategy*" identifies two priority topics of fundamental interest to DFO - fish habitat management and the *Navigable Waters Protection Act*.

The DOE discussion document on the Strategy proposes the following national objective, based on a vision of sustainable water management, which would be a shared responsibility of all orders of government, the private sector, communities, and individual Canadians:

“To ensure clean, productive, and secure freshwater resources and ecosystems, providing social, economic, and environmental benefits for present and future generations of Canadians.”

This objective would be supported by three goals of sustainable use, clean and healthy ecosystems, and security and optimal benefits. The discussion document also proposes a number of principles that should guide the collective efforts of the federal government towards these goals. These include:

- recognizing the real value of water
- shared responsibility
- partnership approach
- ecosystem approach
- precautionary approach
- beneficiary and polluter pays

Five strategies are proposed as the means for the Government of Canada to contribute to the attainment of the national freshwater goals. These strategies reflect the core role and responsibilities of the federal government, and the new realities of governance. They build on the original strategies set out in the 1987 *Federal Water Policy*. Specifically, the discussion document proposes:

- *Partnership with the Provinces and Territories* – Constitutionally, fresh water is a shared responsibility, and Canadians are looking at all levels of government to work together to conserve and protect our freshwater resources. While considerable progress has been made in strengthening the inter-governmental partnership, there is a need to ensure that all levels are working towards a common result, making use of its collective but increasingly scarce resources towards that end.
- *Science and Technology* – The federal government will focus its science on national priorities such as the effect of toxic chemicals and climate change on aquatic systems as well as statutory obligations including support for international treaties and agreements, fisheries, migratory waterfowl, and navigation.
- *Public Participation and Community Action* – Sustainable water management is beyond the ability of any single order of government. It must be built on a foundation of community commitment and action with individuals, industry, non-governmental organizations and governments working together. The government will continue to work with communities to identify new and innovative approaches to governance that provide an effective role for all community interests.
- *Legislation and Regulation* – The federal government will work with its provincial and territorial partners to ensure that the legislative and regulatory regime for water management in Canada is effective and efficient.

- *Market Instruments* –The federal government continues to support the implementation of economic instruments to promote sustainable water use. Examples include user charges or fees, full cost pricing, and tradable permits.

The preceding goals and strategies are meant to engage Canadians and their governments in a dialogue on federal freshwater policy for Canada. It is the beginning of a process to update the current policy to reflect the evolution of freshwater issues and to ensure Canada's readiness for the challenges of the new millennium.

Freshwater Initiative: Principles, Objectives and Goals

DFO freshwater activities adhere to and advance the vision and long term goals as stated in the departmental planning framework.

The principle of shared stewardship is a cornerstone to the achievement of DFO's objectives in fresh waters. Partnerships with provinces and territories, other federal agencies and with other groups are essential. They are especially important where provinces, territories and other federal departments have formal delegated arrangements for the management and protection of freshwater resources. Co-operation and collaboration are important tools in achieving freshwater goals: to be effective, they do require agreed upon standards.

The principles of the DFO sustainable development strategy are reflected in the daily activities of the organization. It is also appropriate that DFO freshwater activities build on the sustainable development principles of: shared stewardship, integrated management, an ecosystems approach, continuous improvement, the precautionary approach, and pollution prevention.

Consistency with *Toward Canada's Oceans Strategy* principles of sustainable development, integrated management and the precautionary approach is perhaps less obvious. However, this consistency is important for the integration of approaches for fresh and marine waters e.g. the integrated resource management of anadromous species.

The objective, principles and strategies outlined in the discussion document *Towards a Federal Freshwater Strategy* have been prepared for all federal activities in fresh waters. This work complements the Federal Freshwater Strategy: accordingly, the national principles, goals and strategies are relevant.

Of particular relevance are the principles of partnership approaches, shared responsibility, the ecosystem approach and the precautionary principle. Also relevant are the national strategies for partnership with provinces and territories, science and technology, public participation and community action, legislation, and regulation and market instruments.

ISSUES AND FUTURE DIRECTIONS

Confirmation of Fisheries Management Responsibilities

There is a complex patchwork of freshwater fisheries jurisdiction between the federal and provincial and territorial governments. This multi-jurisdictional management system has developed and evolved in Canada since 1868 when the first *Fisheries Act* was enacted. Regional differences reflect the need to address varying historical, constitutional, economic and social factors related to the freshwater fisheries.

Background

Under the *Constitution Act* (1867) the federal parliament was assigned responsibility for sea coast and inland fisheries while provincial legislatures were assigned responsibility for matters of property and civil rights and the management of public lands. Until about 1899, the federal government managed all Canada's sea coast and inland fisheries.

Court references between 1882 and 1898 determined that Parliament's authority over inland fisheries were limited where the propriety rights in those fisheries were in private hands or vested in the provincial Crowns. Provincial legislative responsibilities for inland fisheries were confirmed. These responsibilities include determining how and to whom fishing privileges can be conveyed, and managing public lands from which fishing privileges are derived (i.e., the owner of the bed of an inland water body has a propriety right to any fishery in that water body).

After 1899, a system of delegation of federal administrative authority (i.e., fisheries management regulatory authority, particularly section 43 of the *Fisheries Act*) developed with the provinces of Ontario and Quebec, who had since the mid 1880's disputed the federal government's exclusive jurisdiction. At the time, some of the most commercially important fisheries in the country occurred on the Great Lakes.

A system of fisheries management delegation was also instituted in Alberta, Saskatchewan, and Manitoba when management of Crown lands was transferred to the western Provinces after 1929. In British Columbia delegation of non-Pacific salmon species took place after the 1950's in a more informal setting. In 1989, a delegation agreement for freshwater fisheries responsibilities was instituted in the Yukon Territory.

In Nunavut and the Northwest Territories the federal government retains full management authority for all fisheries. Public lands are the responsibility of the federal Crown, as was the case in the western provinces prior to 1929, and no provincial-like system of delegation has developed. A 1976 Order-in-Council gives the Government of the Northwest Territories the authority to administer freshwater and anadromous sport fish licensing. This involves issuing sport fishing licences, enforcing angling regulations, recommending fees, and committing net revenues to territorial consolidated revenues.

In Nova Scotia, New Brunswick, and Prince Edward Island, delegation has taken place only for trout enhancement. Provincial roles include licensing inland fisheries, enforcing provincial licensing provisions and supporting federal Atlantic salmon management and research, fisheries conservation and protection programs, and research

and management programs for non-anadromous freshwater species. Regulatory control of the fisheries remains under the *Fisheries Act*.

In Newfoundland the federal government retains full management authority for all fisheries, in accord with the 1949 *Terms of Union*.

Current Situation

There is a complex patchwork of freshwater fisheries jurisdiction, ranging from full federal delivery to delegation in whole between the federal and provincial and territorial governments.

Where there has been delegation, the resultant system generally involves the Governor-in-Council approving fishery regulations (e.g., quotas, closed seasons) that have been developed by provincial or territorial governments. The regulations usually designate the provincial or territorial “fisheries” Minister or another official as the responsible authority for administering the regulations (e.g., in the Alberta Fisheries Regulations: “Chief Fisheries Officer” means the Director of Fisheries Management of the Natural Resources Service of the Department of Environmental Protection). Thus, while the legislative authority and responsibility resides with the federal government, the day-to-day administration rests with the provinces and territory. DFO’s role has evolved to be primarily one of enacting provincial regulatory recommendations.

The system of delegation of administrative authority is heavily dependent on the federal regulatory process. The Provinces and Territory with delegated responsibility have long been critical of the process, particularly with the time needed to effect changes to Provincial Fishery Regulations. The Province of Saskatchewan has recently enacted a provincial *Fisheries Act*, which enables federal-like fishery regulations to be passed under provincial order-in-council.

In the interest of clarity on roles and responsibilities, more formal federal/provincial arrangements for freshwater fisheries have been developed in British Columbia, Alberta and Ontario. One purpose of these umbrella agreements has been to allow for clear assignment of authority to the provinces for all non-tidal, non-anadromous fisheries, and the ability to administer the full range of fisheries-related responsibilities that the Constitution will allow. These agreements also allowed for more specific sub-agreements detailing explicit commitments for carrying-out shared responsibilities relating to conservation, resource rehabilitation, economic development and fish habitat management. Only one sub-agreement has been developed, covering fish habitat management in Ontario. In 1997, Ontario withdrew from undertaking *Fisheries Act* authorizations under the Canada-Ontario habitat sub-agreement.

In 1993, the Provinces of Nova Scotia and New Brunswick discussed developing a memorandum of understanding with DFO to clarify their interests in freshwater sports fishing. The Provinces wanted to extend their administrative responsibilities beyond issuing and regulating inland sport fish licensing into some areas of the federal fishery management responsibility similar to those administered by some of the other provinces and territories. More recently the Province of New Brunswick expressed its interest into extending its licensing jurisdiction into tidal waters, being delegated authority for sport fisheries and in assuming full responsibility for fisheries protection in inland and estuarial

waters. These proposals have not moved forward. Concerns for how this proposed delegation would impact the current level of integration of fisheries management, conservation and protection and science activities in Maritimes' fresh waters have not been resolved.

In 1994, the Government of the Northwest Territories (GNWT) approached DFO to discuss the delegation of "province-like powers" involving an enhanced resource transfer for administering freshwater and anadromous fisheries. The two governments had conducted serious negotiations during 1987 and 1988 and developed an agreement to devolve federal freshwater fisheries activities and provide a resource transfer to the GNWT to fund the agreement. In the end, the GNWT chose not to proceed with the agreement, primarily for financial reasons. DFO responded negatively to the 1994 delegation request. There were several factors leading to this position. There were no incremental funds to conclude an agreement. The emergence of newly formed co-management boards under comprehensive land claims settlement legislation, and the pending division of the territory and creation of the Nunavut Territory were also considerations. As well, greater priority was placed on fish habitat delegation discussions with the provinces in the region, and other federal program review pressures.

Future Directions

DFO's recent fishery management renewal, oceans and sustainable development strategies have highlighted the priority of conservation, and the importance of integration, shared stewardship and transparent decision making. Fisheries management renewal involves pulling back from micro-management and focusing on core responsibilities, and providing the leadership to set the legal and policy framework in order to achieve core responsibilities. The approaches are relevant for DFO in freshwater fisheries: perhaps all the more, given the multi-jurisdictional nature of freshwater management systems.

The federal government would continue to establish and implement, with the provinces and territories, a legislative framework for fisheries management, particularly conservation.

The delegated management of freshwater fisheries in Quebec and the inland provinces has evolved over many years and is an example of effective federal/provincial co-operation. The same can be said of the more recent example of the Yukon Territory. Where there has been delegation in whole, this clear assignment of authority should be maintained. Roles of the federal and provincial governments with respect to freshwater issues involving Aboriginal groups remain a matter of debate. The federal position is that, because of their responsibility for managing freshwater fisheries, delegated provinces have the resulting responsibility to ensure that fisheries management is conducted in a manner consistent with any aboriginal or treaty rights.

No specific proposals are made to clarify delegation arrangements through umbrella agreements, as were advanced in the late 1980's. DFO's regions would be prepared to review the situation with their provincial and territorial counterparts. This may lead to regionally based arrangements and confirmation of the respective roles and responsibilities. However, as there are no incremental funds for this purpose, any such

regional agreements would be limited and would have to occur within existing resource levels.

Where there is delegation in part or specific agreements, this clear assignment of authority should also be maintained. This would apply to trout enhancement in Nova Scotia, New Brunswick, Prince Edward Island, non-Pacific salmon species in British Columbia and aspects of sport fisheries in the Northwest Territories. With the creation of the Nunavut Territory, an agreement similar to that in place with the Northwest Territories may be beneficial. Any further agreement or delegation would require clarification of a number of policy and program issues, and is not proposed at this time.

In Newfoundland, DFO will continue to deliver the full federal mandate for fisheries management in fresh waters.

Recreational Fisheries

Freshwater angling is a major activity, representing about 94% of all angling activity in Canada. There are significant direct economic benefits from freshwater angling, as well as large economic impacts on the service and tourism sectors.

The vast majority of freshwater angling occurs in fisheries where the administration of federal jurisdiction for fisheries management has been delegated to provinces and territories. The DFO role in recreational fisheries has evolved since the preparation of the 1987 *Canada's Policy for Recreational Fisheries*, as the department is placing increased emphasis on the conservation priority.

Background

There are over 3.5 million Canadian anglers and some 750,000 foreign tourists visiting Canada to fish. Three fresh water species (trout, pickerel and perch) account for over 55 % of anglers' catch of about 250 million fish a year, of which nearly 110 million are kept. Canadians spend about \$1.8 billion annually on goods and services directly related to their angling activities (e.g., food, lodging, transportation, fishing supplies) while foreign tourists spend about \$650 million. In addition, anglers invested an estimated \$2.4 billion in capital goods which they attributed directly to their fishing activities.

The 1987 *Canada's Policy for Recreational Fisheries* outlines the guiding principles, objectives and approaches for managing sport fisheries. In the policy, angling is recognized as a significant and legitimate use of Canada's fish resources. Governments and resource users share responsibility for conservation and wise use, with the angling community bearing the responsibility for harnessing its skills and energy to conserve and develop the resource. Within the context of their respective responsibilities, federal, provincial and territorial governments are partners in the management of the fishery. On this last principle, the policy states the federal government will assure those federal initiatives in fresh water respect and support provincial and territorial management priorities.

Current Situation

DFO is currently reviewing its management programs for non-delegated sport fisheries. The review is planned to lead to a new policy framework to guide departmental activities and identify key policy objectives and priorities. This work will take the 1987 policy into consideration, but will specifically address resource conservation issues involving angling and mitigating strategies. It will consider the resource allocation framework in the context of providing greater recognition to the growing importance of angling, particularly in the context of fully subscribed fisheries. The work will also examine new development opportunities in the context of the roles of the different levels of government and industry; and the potential for partnerships for stakeholders in watershed planning, sport fish management, and innovative funding approaches (e.g., see the note in this report on Community Watershed Management for Atlantic Canada recreational fisheries).

In recent years, the National Conferences of Fisheries Ministers (NCFM) have been a forum for addressing recreational fisheries topics in the context of the federal and provincial and territorial partnership. The 1996 NCFM looked at issues relating to declining participation in the recreational fisheries. The 1997 NCFM discussed a number of “best-bet” national scope initiatives in the context of reversing the declining participation. This included commitment to a 1998 national recreational fisheries conference hosted by the DFO Minister.

In response to the declining participation, A “National Recreational Fishing Working Group” (NRFWG) consisting of provincial, territorial and federal government representatives and national industry/interest groups was formed. In 1997, it developed an *“Action Plan to Revitalize Recreational Fishing in Canada”*. It identified priority issues and actions in the areas of participation, conservation and organization.

Four action items were identified to enhance angling participation. These included developing:

- a co-operative public and private sector “Market Tourism” program to promote Canada as a “fishing destination”;
- a “Canadian Angling Week” program to provide a national profile event/platform to implement new initiatives;
- a “Youth Fishing Initiative” strategy that would develop an internet site to promote activities such as “learn to fish” clinics and “youth at risk” programs; and
- proposals for a responsible access development program aimed at enhancing physical access to fishing sites to provide greater opportunity for people to get out angling.

These initiatives are still in the preliminary stages. They require more input and commitment from the private sector angling community. In addition, funding issues need to be addressed.

The action plan identified a fisheries education program to supplement ongoing resource conservation activities of federal, provincial and territorial fish management programs. This education program would involve a national implementation of the “Fishways” program.

Finally the action plan outlined some organizational tasks that needed to be put in place to advance the participation and conservation action items. It proposed a short-term approach of using task teams composed of volunteers from the NRFWG to undertake specific tasks related to the action plan proposals. However, the over-all co-ordination and facilitation of the action plan needs to be finalized. Ontario representatives co-ordinated the activities of the Working Group in 1997 and DFO is undertaking the facilitation role for 1998-99. The provinces and the territories requested, and the federal government accepted, to take the leadership role for a one year period (from September 1998 to October 1999). DFO views its participation as one of fourteen governments, each of which is equal.

National recreational fisheries conferences were held biennially until 1992. These conferences provided a forum for non-government stakeholder (involving anglers and the commercial sector) input to broader recreational fishery policy formulation and program

development. For example, the current recreational fisheries policy was tabled at the 1986 conference, and the discussions and recommendations from the conference formed an integral step in the final approval of the policy by the NCFM in 1987. They have also given public sector resource managers opportunities for consensus building and co-operative action. DFO sponsored these events and paid for the accommodation and travel costs of three or two invited attendees representing the angling community from each province and territory.

The lapse of these conferences was discussed at the 1997 NCFM. Minister Anderson committed DFO to host the 1998 conference. A long term issue for all public sector agencies with these conferences is funding the costs of invited participants, as the capacity to sponsor and absorb associated costs is limited.

DFO has undertaken angler surveys since 1975 with the latest survey, 1995 being completed in the fall of 1997. These surveys have been conducted every five years and are designed to provide governments and angling interests with primary statistical data and information on angling activities in Canada at the provincial/territorial level of statistical aggregation. Survey estimates and results are particularly useful for providing fisheries management programs with trend information on angling activities. In some jurisdictions, the survey information represents the only consistent source of data, particularly catch and effort data, on the sport fishery.

DFO works co-operatively with the provinces and territories in conducting the surveys. The provinces and territories provide some support and funding for bilingual questionnaire design and preparation, sample selection and mailing. DFO provides funding and support for data entry and processing, statistical analysis and preparation of survey publications and reports. Funding pressures caused some difficulties and delays in the planning and implementation of both the 1990 and 1995 surveys.

Future Directions

DFO will complete its review of management programs for non-delegated recreational fisheries. There is a need for a new policy framework and an articulation of key policy objectives and priorities for recreational fisheries directly managed by the department. This work should take the 1987 policy into consideration, but it specifically should address the resource conservation priority. There are no plans within DFO for a more comprehensive review and update of the 1987 *Canada's Policy for Recreational Fisheries*.

DFO will support continuation of biennial national recreational fisheries conferences. However, new funding arrangements with provinces, territories and the angling community will be required to sustain this national forum.

DFO will continue its role in the national angling survey. Funding constraints at all levels of government may result in a survey re-design, for example with less coverage in terms of topics addressed. Enhancement of the survey program will be contingent on new cost sharing allocations among provinces and territories. The federal government will continue to publish Canada-wide data in a national report.

The future directions of the NRRFWG action plan are at this time unresolved. Co-operative private and public sector support and funding must increase for these initiatives to be sustained, as currently they have not reached levels sufficient to see potential projects through a complete planning phase, let alone implementation. DFO will fulfil its current co-ordinating commitments to October 1999, at which time it is expected that the role will be taken on by another jurisdiction as part of the rotation among all participating governments. DFO will review the action plan against its sport fish management policy framework to determine NRRFWG implementation activities.

Community Watershed Management

Community Watershed Management (CWM) is of increased interest across Canada, for a variety of freshwater fisheries and fish habitat management needs, including:

- Quebec, which has full delegated responsibility for freshwater recreational fisheries, has the most notable and longest experience with community management through the ZEC system (Zones d'exploitation contrôlées).
- Newfoundland, where two CWM pilot projects have recently been established in partnership with the province and local community groups. The Indian Bay and Bay St. George pilot projects have been designed to test or evaluate concepts and approaches in support of the overall initiative.
- Ontario, where agreements are being established with conservation authorities for the delivery of specific fish habitat management responsibilities.
- British Columbia, where watershed management plans will be developed by communities with a wide range of stakeholders under the Resource Rebuilding initiative.
- Northwest Territories and Nunavut, where community based management is being advanced for small-scale subsistence and commercial fisheries in the Canadian Arctic.

In this note, the Atlantic and Pacific CWM experiences will be used to outline the main elements of the concept, with the understanding it is of much wider interest nationally.

Background

CWM is consistent with the current role of DFO. The Department is redefining its relationship with all stakeholders in the Canadian marine and freshwater fisheries. It is now expected that resource users will assume a greater decision-making role in the management of fisheries, as well as a greater contribution to sustaining the resource from which they obtain benefits. Provinces and territories are also facing their own challenges in re-defining their services, and CWM further provides them with an innovative and cost-effective approach for the management of freshwater fisheries and their supporting habitats.

Atlantic

In Atlantic Canada, CWM has been advanced on the basis of devolution of recreational fisheries management responsibilities to not-for-profit, local authorities that are representatives of the interests of users and local communities. It is a new and innovative strategy for increasing the direct involvement of local communities in conservation, rebuilding and sustainable use of river-specific and watershed-specific recreational fishing resources. The specific responsibilities devolved can vary and could include

some or all of the following: licensing, enforcement, stock assessments/science, stock enhancement, habitat improvement and infrastructure.

CWM involves the creation of partnership arrangements relating to recreational fishery resources involving DFO, provincial governments and non-profit community groups. It also responds to the interest expressed by many community groups who wish to assume a larger role in the management of local fisheries resources and habitat.

The CWM process is evolutionary, in that responsibilities can increase over time. The intent is to build on the experience, growth and maturing of local community groups, as well as the level of local resources. The precise role and responsibilities of a participating group would be defined in a management plan approved by DFO and participating provincial authorities. Given provincial authority over issuing licences and setting fees for recreational harvesters, provincial contribution to the process is very important to the success of a CWM arrangement.

CWM provides the tools necessary to introduce watershed-specific management. From this perspective, it can offer the opportunity to significantly increase the resources available locally for management and conservation. It offers other conservation benefits, and may also result in additional economic benefits from the recreational fisheries resources.

A critical element in promoting increased local involvement in the management of recreational fisheries is to provide community groups with a mechanism through which to secure funding sources linked to the use of the fishery resource in their respective watershed.

Pacific

In Pacific Region, the recently released “*A New Direction for Canada’s Pacific Salmon Fisheries*” identifies that “enhanced community, regional and sector wide input to decision making will be pursued through a structured management and advisory board system”. Watershed management plans will be developed by communities with a wide range of stakeholders in Pacific Region under the Resource Rebuilding initiative.

Fisheries and Oceans Canada received considerable public advice and feedback during the 1998 coho recovery team consultations on the critical state of coho salmon stocks in the Pacific region. The consultations revealed unanimous public and stakeholder support for rebuilding wild coho stocks. Much of the advice focussed on the need to both restore degraded spawning and rearing habitat and improve the protection of existing habitats.

As a result of this advice, in June, 1998 the Minister of Fisheries and Oceans announced a five year, \$100 million Resource Rebuilding strategy to bolster the federal government’s actions on salmon habitat. This strategy, which is part of a larger Pacific Fisheries Restructuring and Adjustment Program, has four components: habitat restoration; strategic enhancement; establishment of a long range fund for community projects, and improved habitat protection.

Current Situation

Atlantic

The investment by DFO of over \$80 million in the Atlantic Sportfish Enhancement Program, which included a large Commercial Salmon Licence Retirements Program, has not been sufficient to ensure significant salmon returns in many river systems throughout Atlantic Canada. The need for enhanced management is increasingly important now to protect the gains in the rebuilding of this resource and ensure additional growth in stocks.

Current management of the recreational fishery resource is, of necessity, based on “average” conditions in a given region or province. Yet individual watersheds vary considerably in terms of natural productivity, accessibility, and other factors. There is, therefore, a growing consensus that the management of these resources can be significantly more effective at the watershed-specific level.

Principles and guidelines have been prepared for further discussions on CWM initiatives with user groups and provinces. They include:

- a focus on conservation and sustainability of the resource;
- providing resource users with a greater role in decision-making regarding the management of the resource;
- shared responsibility and self-management, rather than simply workload transfers;
- preference for proposals that involve the respective province as an active partner;
- willingness to enter into discussions with provinces to clarify roles and responsibilities, including those relating to cost recovery through licence fees;
- aboriginal fishing must be taken into account, as well as the importance of involving aboriginal peoples as partners in co-operative action to conserve and rebuild the resource;
- recognition of the principle of public recreational access to the fishery. In this context, the introduction of additional user fees would be expected to be based on public consultations and broad based support;
- DFO, while continuing in its role regarding conservation and management will not fund administrative requirements or initiatives undertaken by the community watershed management authority.

Provincial governments in Atlantic Canada have raised concern that the perception of CWM as a barrier to access is of greater immediate concern than the potential benefits from agency-community partnerships. Their message is to approach the subject with caution:

- The Province of Nova Scotia has rejected the concept where such a management scheme would be contingent on deriving revenues from the provincial recreational licensing program;
- PEI sees no practical application;

- Newfoundland has undertaken a comprehensive public inquiry following a pilot project, and;
- New Brunswick places delegation of federal administration as a prerequisite to further consideration.

Pacific

A regional network of Habitat Auxiliaries and Stewardship Co-ordinators will support community watershed stewardship groups and/or work directly and proactively with local First Nations, developers, industry and other government agencies. The primary objectives are to prevent damage to fish habitat, advance sustainable land and water use planning and promote better land and water use practices.

The success of this program will depend largely on the ability to locally design and deliver effective habitat protection and watershed stewardship programs. One objective is to support or augment, with additional resources, established and successful fish habitat protection programs. Where local mechanisms or programs do not exist but are required, stewardship coordinators and auxiliaries will help establish and support them. The focus will be on pro-active activities, which provide habitat protection both in the short and long term.

The Pacific Region's program will be guided by the following principles:

- Strategic delivery in priority watersheds
- Scientific information exchange with stakeholders
- Field orientated program design and implementation
- Creation of long-term community stewardship capacity
- Clear linkages with existing and effective habitat protection programs
- Communication across governments, First Nations, industry and communities
- Adaptive program that responds to local opportunities, abilities and fish benefits.

The program will be delivered locally since there are a variety of habitat issues, geographic conditions, opportunities and community capacities across B.C. and the Yukon. The emergence of other local habitat protection programs also dictates that this program be tailored to fit each unique circumstance. In order to make these community-based programs work, there will be a need for DFO to provide ongoing advice and support in the form of information, technical advice, guidelines, training, communications materials, Geographic Information Systems support, etc. These support services will be provided as part of the program.

Future Directions

DFO is prepared to consider proposals for CWM arrangements for recreational fisheries throughout Atlantic Canada. A major community watershed management planning initiative is underway in the Pacific Region. Other variants and applications, such as community based management in the Canadian Arctic, are also proceeding.

Clearly, there are both potential benefits and challenges for government in implementation of CWM initiatives. Fundamental to this process is actively involving users in the decision making and management process while balancing overall responsibilities for conservation and the public interest.

Relevant to this approach is the work of a panel advising DFO on the best way to shape partnering arrangements and on the appropriate legislative framework for these arrangements. The panel has concluded that co-management and partnering mean different things to different people, although many see promise in their development. The panel reported that the majority of the people heard from agree that status quo arrangements are no longer viable, although there is no consensus on what ought to be done to promote partnering.

The panel has recommended that the Minister of Fisheries and Oceans not go forward at this stage with legislation for partnering. There is still a great deal of preparatory work required for partnering to be supported by the fishing industry. The panel has recommended that the Minister and the department pursue co-management and partnering as a building block for the fishery of the future. It also recommended that DFO review and co-ordinate efforts to develop a community-based management approach. In the view of the panel, this approach is not only controversial, it is also not sufficiently defined.

Freshwater Fish Marketing Corporation (FFMC)

The Freshwater Fish Marketing Corporation is a crown corporation without share capital, established under the *Freshwater Fish Marketing Act* with the agreement of the participating provinces. The Act gives the FFMC the exclusive right to market and trade in fish in inter-provincial and export trade in designated products of the freshwater fisheries supplied from the three Prairie Provinces, the Northwest Territories and parts of northwestern Ontario. Its objectives are:

- to market fish in an orderly manner;
- to increase returns to fishermen; and
- to promote markets and export trade in fish.

The Act requires the FFMC to purchase all legally caught fish offered for sale by licensed fishermen. It must conduct its operations on a self-sustaining financial basis without appropriations by Parliament. The FFMC now handles virtually all freshwater Canadian fish produced outside the Great Lakes.

The FFMC is managed by an eleven member board of directors composed of a Chairman, a President, one director for each participating province or territory and four other directors.

Background

In the early 1960's the Canadian freshwater fish industry was beset by serious problems. In the Prairie Provinces there was concern about recurrent price weakness, especially in export markets. Governments were particularly concerned about the effect this had on the well being of the primary producer, the fisherman, who ultimately bore the brunt of weak prices.

In response to requests from the Prairie Provinces and fishermen for help, the federal government appointed a Commission of Inquiry in 1965 chaired by Mr. George McIvor.

After an extensive investigation, the Commission of Inquiry concluded that:

- The export market was weak because there were too many exporters in Canada to counter the control exercised by very few importers in the United States.
- Fishermen were being penalized directly as a result of that situation.
- Fishermen were dependent on buyers who supplied fishing gear, boats, and other equipment at the beginning of the year, but never knew what they would get for their fish until the end of the year. They received year-end cheques if the market had covered advances made at the beginning of the year. Frequently, there was nothing at the end of the year.

To address these problems, the Commission's principal recommendation was the establishment, under federal legislation, of a Freshwater Fish Marketing Board.

The Commission's report was studied and endorsed by the fisheries ministers of the Prairie Provinces and the federal Ministers of Fisheries and Industry, Trade and Commerce. Parliament subsequently enacted the *Freshwater Fish Marketing Act* (FFMA) and the Freshwater Fish Marketing Corporation (FFMC) commenced operations on May 1, 1969.

The FFMC is modelled after the Canadian Wheat Board. It is designed to consolidate the production of many small, isolated fisheries under one processing and selling umbrella in order to improve returns in the marketplace and increase returns to fishermen.

In procuring supply, the FFMC sets initial guaranteed prices to fishermen, followed by final payments at the conclusion of the operating year. The working capital and capital asset requirements of the Corporation are financed through loans from the Minister of Finance.

The FFMC serves approximately 3,500 fishermen. Approximately 50% are status Indian and 10-20 percent are non-status Indian. The Corporation hires some 35 agents to deal directly with fishermen fishing from 300 to 500 individual lakes and landing their catch at one of 75 delivery points scattered throughout the FFMC's market and trade territory. The agents pack the fish in ice and ship it to the Corporation's processing plant in Winnipeg (40 to 50 million pounds round weight annually). Manitoba has the largest commercial fishery within the jurisdiction of the FFMC, accounting for approximately two-thirds of the landings and three-quarters of the landed value.

The FFMC provides important services in remote areas throughout its jurisdiction, including:

- a guaranteed market for all fish offered to it, subject to price and quality specifications;
- credit;
- a system of guaranteed collection points;
- a legislative requirement to maximize returns to fishermen (resulting in any gains in the market being netted back to fishermen); and
- a guaranteed price prior to the start of the season.

Current Situation

The Corporation has performed well and has been profitable since 1973 while meeting the objective of its mandate. In the last five years, sales have averaged \$43.7 million, net income \$3.5 million and returns to fishermen \$28 million. The FFMC has retained earnings of \$3.5 million as a contingency against possible future losses.

The FFMC has rationalized processing facilities from 35 plants and 200 packer-dealers twenty-five years ago to one plant and 75 receiving points, resulting in reduced handling and processing costs and hence, increased returns to fishers. A single selling desk has increased bargaining strength in the key U.S. freshwater market, which is characterized by a few large buyers. Amalgamation of many small lake fisheries has stabilised supply and facilitated orderly marketing of fish.

In the fall of 1994, the Minister of Fisheries and Oceans requested that the Standing Committee on Fisheries and Oceans review the operations of the FFMC to determine whether support exists for the FFMC and its "single desk" selling mandate. In February 1995 the Committee tabled its report and recommendations on the FFMC. While acknowledging that the FFMC had fulfilled its mandate and operated in an efficient manner, the report indicated that it was not serving the interests of fishers in remote northern communities and recommended that it be wound up. The majority of the FFMC's stakeholders as well as the provinces and territories disagreed with the Committee's recommendation.

In June, 1995, the Minister of Fisheries and Oceans tabled the government's response, which provided a balance between those seeking changes to the FFMC and the majority of fishers who support single desk selling. It included three measures:

1. deregulation of the purchase and sale of all rough fish;
2. unrestricted licensing of the purchase, processing and sale of all fish from the Island Lake region of northern Manitoba by the Island Lake Opakitawak Co-operative Ltd. for a three year period as a pilot project, with a commitment to assess the impact and effectiveness of the project after three years, and
3. creation of an elected advisory committee to the Board of Directors of the FFMC.

The first two measures have been implemented: unconditional special dealers licences for the purchase and sale of rough fish have been issued on demand, and; the community of Island Lake has been issued unconditional licences to sell its fish and is operating its own processing facility. Amendments to the FFMA to provide for an elected advisory committee were included in Bill C-49, which was tabled in June 1996. Bill C-49 did not get beyond second reading prior to the election call. These amendments to the FFMA were therefore re-introduced as part of Bill C44, tabled in June 1998.

It will need to be determined whether the pilot project is viable and whether there would be adverse impacts on fishermen now selling to the FFMC from further expansion of these sort of arrangements. An independent evaluation of the Island Lake pilot project is underway. The government's position has been that the results of the Island Lake pilot project must be assessed before considering further expansion of such projects.

Future Directions

The FFMC was created to address a problem of inadequate prices for freshwater fish. Overall, it appears to have met its mandate of improving returns to fishers while operating on a self-sustaining basis. It has accomplished this in large part because of single desk selling. However, there appears to be growing pressure to circumvent the concept of single desk selling. This raises the question as to whether the concept of single desk selling is sustainable in the long run and if not, what are the alternatives if any, short of returning to conditions prior to the creation of the FFMC.

Other than prices, the FFMC has no control over factors that contribute to low fishing incomes in the inland commercial fishery. These factors include high transportation costs, inadequate infrastructure, effective management of individual fisheries, over-capacity and poor stock conditions.

The FFMC's operations and mandate will continue to be scrutinized and challenged. The future of the FFMC will be influenced by its performance and acceptability to fishermen, the participating provinces and territory and the aboriginal community, and policies with respect to fisheries management and the development of alternative economic opportunities in remote, aboriginal communities.

Sea Lamprey Control Program

The 1955 Convention on the Great Lakes Fisheries established the Great Lakes Fishery Commission (GLFC). Among its primary responsibilities, the GLFC plans and implements an annual sea lamprey control program that is delivered by its agents, the U.S. Fish and Wildlife Service and DFO. DFO's portion of the program is delivered from the Sea Lamprey Control Centre in Sault Ste. Marie, Ontario. During 1995, the Canadian federal budget for lamprey control was eliminated as part of the federal Program Review. Since then, the Minister of Fisheries and Oceans has renewed DFO's support for the program and restored funding on an interim basis.

Background

The Great Lakes are highly valued resources that fall under the management jurisdictions of two nations, eight states, one province, and several aboriginal interests. The resources are managed for sustainable use through continuous, binational co-operation.

A mechanism to develop and implement co-ordinated fisheries management programs between Canada and the United States was not always in place. Efforts to establish an international fishery commission exclusively for the Great Lakes failed repeatedly in the period from 1893 to 1952 because of an unwillingness of the states and the province to relinquish management authority.

The impact of the exotic sea lamprey on important fisheries resources propelled the nations to put into place a mechanism for effective, co-operative, binational fisheries management. By the early 1950s, sea lamprey predation, combined with overfishing and habitat destruction, severely reduced valuable stocks of whitefish and lake trout. To facilitate co-ordinated, binational fisheries management, the governments of the United States and Canada negotiated and ratified the 1955 Convention on Great Lakes Fisheries, which created the Great Lakes Fishery Commission (GLFC). This bilateral agreement affirms the need for the two nations to collaborate on the protection and the perpetuation of the Great Lakes' fisheries resources.

The commission consists of four Canadian commissioners appointed by the Privy Council and four American commissioners (plus one alternate) appointed by the President. The commissioners are supported by a small secretariat, located in Ann Arbor, Michigan. Canada and the United States each pay the costs of their appointees to the commission. Common costs (administration, committee and scientific support) are shared 50:50. Sea lamprey control and research is funded 69% by the United States and 31% by Canada, based on the historic value of the commercial lake trout and whitefish fisheries and an approximation of the area apportionment of the Great Lakes between the United States and Canada.

The Convention charges the commission with five major duties:

- to formulate a research program to identify measures to enhance the sustained productivity of any Great Lakes fish stock of common concern;
- to co-ordinate research made pursuant to such programs, and, if necessary, to undertake such research itself;

- to recommend appropriate measures to the contracting parties on the basis of the findings of such research programs;
- to formulate and implement a comprehensive sea lamprey control program; and
- to publish or authorize the publication of scientific and other information obtained by the commission in the performance of its duties.

The commission formulates its program based on advice from the Sea Lamprey Integration Committee, the Board of Technical Experts, the Habitat Advisory Board, the Lake Committees, and the Great Lakes Fish Health Committee. These boards and committees are made up of fishery experts from academic and research institutions, from government organizations, and from tribal resource agencies. Advisors to the U.S. section of the commission, four from each state on each Great Lake, are nominated by Governors and appointed by the U.S. Section to provide public input on fishery-related issues. Advisors to the Canadian section are fewer in number and are appointed by Canada and the Province of Ontario.

Commission-sponsored Great Lakes research takes advantage of the skills of a variety of fisheries experts and co-operates with governmental and non-governmental agencies to carry out its research program. For instance, the commission contracts with the Great Lakes Science Centre, aboriginal agencies, and universities to carry out research in the United States, and with the Department of Fisheries Oceans, the Ontario Ministry of Natural Resources, and universities to carry out research in Canada.

Current Situation

During 1995, the Canadian federal budget for lamprey control was eliminated as part of the federal Program Review. Since then, the Minister of Fisheries and Oceans has renewed DFO's commitment to the program and restored funding on an interim basis.

On April 1, 1998 the Minister of Fisheries and Oceans announced that the federal government had renewed its support for the Great Lakes Fishery Commission. Canada will contribute \$6 million in fiscal year 1998-99 to the Commission to carry out the Sea Lamprey Control Program. Funding for the GLFC in the two previous years was \$5.145 million per year.

DFO's commitment to sea lamprey control is not limited to direct funding for the GLFC. The department carries out freshwater research that also supports the program.

The interim funding has been in place to allow DFO, the Province of Ontario and stakeholder groups to explore and implement new partnership arrangements, including funding and in-kind contributions for the program.

The Ontario Federation of Anglers and Hunters, a major stakeholder, has taken the position that they need a long-term commitment by the federal government to maintain a core level of funding. Only after that is in place, will the federation enter into negotiations on partnerships.

The Province of Ontario is linking funding of the GLFC and the Sea Lamprey Control Program to the resolution of federal/provincial issues, including negotiations on habitat

management. It too is seeking a commitment from the federal government to maintain a core level of funding.

Future Directions

DFO recognizes that long-term funding of the Sea Lamprey Control Program must be resolved. There are, however, international and federal-provincial aspects to this issue, and it would be inappropriate for DFO to commit to a particular level of funding before consultations with the Province of Ontario and Great Lakes fisheries beneficiaries have run their course.

Fish Habitat Management

The loss or degradation of fish habitat is a crucial issue in the conservation of fish stocks. Habitat degradation through pollution or through harmful alteration, disruption or destruction of physical fish habitat can have a direct influence on fish production and on human use of fish. Pollutants continue to enter fish-bearing waters from a variety of point and non-point sources, such as municipal sewage, acid rain, industrial effluent, stormwater, and agricultural runoff. In addition, urbanization, forest clear-cutting, and hydroelectric and other in-stream developments continue to result in habitat loss and degradation.

Background

Canada has constitutional responsibility for the sea coast and inland fisheries and for the habitats that support them. Provinces have the authority to enact legislation that affects fish because of provincial responsibility for natural resources and management of public lands within their boundaries, which includes many measures to conserve fish stocks and protect fish habitat. Through their responsibility for the management and ownership of natural resources, the provinces have enacted legislation that, in many instances, involves the regulation of activities that affect fish habitat. Provinces also have a responsibility with regards to the environment e.g. for environmental assessments that may include impacts on fish habitat.

DFO's fish habitat management program consists primarily of reviewing development proposals for potential threats to fish habitat and outlining measures to avoid or mitigate these impacts. Where provinces manage fisheries, they also have been active in the day-to-day management of the supporting fish habitats. This is done as part of their broader environmental protection activities under their own legislation. The habitat decision-making powers under the *Fisheries Act*, however, remain an exclusive federal jurisdiction.

The *Fisheries Act* provides a comprehensive framework for the management and protection of fisheries resources and supporting habitats. The Act prohibits anyone from harmfully altering, disrupting or destroying fish habitat without authorization by the Minister of Fisheries and Oceans. Fish habitat is defined broadly under the *Fisheries Act*. Since nearly all of the economic operations in a watershed alter fish habitat in some way, this provision is very comprehensive. These provisions also provide a trigger for the federal environmental assessment process under the *Canadian Environmental Assessment Act*. The *Fisheries Act* also makes it an offence to deposit a deleterious substance of any type in water frequented by fish or anywhere else if it might find its way into fish-bearing waters (control of deleterious substances has been delegated to DOE).

The Habitat provisions of the *Fisheries Act* are administered in accordance with the *Policy for the Management of Fish Habitat* (1986). The overall objective of this policy is to achieve a net gain of the productive capacity of the fisheries resource through fish habitat conservation, habitat restoration, and fish habitat development. Under the guiding principle of “no net loss of productive capacity of fish habitats”, actions are taken to balance unavoidable habitat losses with habitat replacement on a project-by-project basis.

Current Situation

Under Program Review, the federal government examined all of its programs to determine the most effective methods of delivery. In areas where Provinces administer fisheries, DFO concluded that provinces, in the context of their responsibilities for natural resources, were therefore in a position to manage fish habitat. Mechanisms to allow for the delegation of fish habitat management were announced in the 1995 federal budget and in the 1996 Speech from the Throne.

DFO's original proposal was to delegate freshwater fish habitat management responsibilities to inland provinces to complement their delegated fisheries management responsibilities. As a result of concerns expressed by environmental non-government organizations and others that this would weaken environmental and fish habitat protection and eliminate triggers under the *Canadian Environmental Assessment Act* (specifically section 35(2) of the *Fisheries Act*), the federal government modified its approach. The enabling amendments to the *Fisheries Act* were introduced in Bill C-62 on October 3, 1996, but died on the Order Paper when an election was called in April 1997. Consultations with stakeholders were held in the fall of 1996. Discussions with inland provinces aimed at developing a framework agreement for delegation, and with provinces and territories for the development of a list of projects which would require a federal permit.

Future Directions

The federal government will continue to set national standards for fish habitat management; conduct scientific research to provide information for the conservation, restoration and development of fish habitats; and promote and encourage the participation of the public and private sectors and other interests in integrated resource planning and conservation of fish habitats, as articulated in the department's policy for the management of fish habitat.

DFO in co-operation with the provinces and territories, will work together to provide a high level of habitat protection and improve regulatory consistency and predict ability with clearly defined federal and provincial roles and responsibilities for habitat management. This could include the delegation of certain fish habitat responsibilities to inland provinces. DFO is not currently pursuing delegation in coastal provinces.

Navigable Waters Protection Act

The Navigable Waters Protection Act (NWPA) is the federal law that provides for the protection of the public right to navigation on all navigable waterways in Canada. The NWPA is intended to ensure that the public right to navigation is protected from works that might interfere with navigation. The legislation also provides power to remove works which are constructed contrary to the requirements of the Act and its regulations.

Background

The NWPA is one of the oldest pieces of legislation in Canada. It first became law on May 17, 1882, and was called “An Act respecting Bridges over Navigable Waters, constructed under authority of Provincial Acts.” As marine transport was one of the primary methods of travel and commerce in Canada at that time, the *Navigable Waters Protection Act* became significant legislation.

The Department of Public Works was the original administrative governing body, with the Governor-in-Council being the approving instrument. Responsibility for the application of the *Navigable Waters Protection Act* remained with the Department of Public Works until it was transferred to the Department of Transport in 1966. A Memorandum of Understanding in April 1995 transferred authority over the NWPA from Transport Canada to the Department of Fisheries and Oceans.

Current Situation

The Canadian Coast Guard is responsible for administering and enforcing the *Navigable Waters Protection Act*. Under certain sections of the NWPA, it is necessary to conduct an environmental assessment as required by the *Canadian Environmental Assessment Act* (CEAA). Once it is determined that a work may interfere substantially with navigation, CEAA may be triggered, requiring a determination of the environmental impacts of the project. In these cases, DFO habitat management staff conduct the environmental assessment.

The Navigation Protection Program ensures that the interference to navigation created by any work in, on, over, or under a navigable waterway, such as bridges, dams, ferry cables etc. is appropriately regulated. Its services include:

- Legal authorization process under Part I of the Act
- Investigation of complaints of unauthorized works and obstructions
- Removal of obstructions to navigation under Part II of the Act
- With DFO Science habitat programs, ensuring compliance with CEAA.

In administering the NWPA, proposed works are assessed to determine the degree to which the work may interfere with navigation. A long-established approval process provides for on-site inspections, consultation with other federal and provincial government departments and public input on major works such as bridges and dams.

The NWPA requires updating in light of increased and competing use of waterways. There is a need to modernize and streamline the Act and to reduce the administrative burden for all parties.

Future Directions

It is anticipated that the federal government will be amending the NWPA. The public will be invited to comment on this initiative at the appropriate time.

Introductions and Transfers of Aquatic Organisms

“Introduction” of an aquatic organism is the intentional or accidental transportation and release of an organism into an environment outside its present range. When an organism is introduced outside its present range, it is called an exotic species in the new environment.

“Transfer” is the shipment of individuals of a species or population of an aquatic organism from one location and released to another within its present range. For example, shipments of live Atlantic salmon (*Salmo salar*) from Norway or Scotland to Canada is considered a transfer since Atlantic salmon occur in all three countries.

Non-native species may be intentionally transferred or introduced to new environments for the following reasons:

- For human food or to use as forage for other aquatic organisms;
- To fill perceived “vacant niches” in specific aquatic communities;
- To enhance diminished populations of a selected species;
- To create new recreational and commercial fisheries;
- To re-establish extirpated species;
- To increase production from aquatic systems (e.g. aquaculture/enhancement);
- To introduce species for biological control purposes; or
- For hobby aquaria

Humans have been the principal movers of aquatic plants and animals to new areas, whether it is the intentional introduction or transfer of an aquatic organism, or the accidental movement of accompanying organisms from one area to another. While many of the aquatic organisms intentionally introduced into Canada have provided important economic, social and environmental benefits, introducing and transferring aquatic organisms can affect the stability of aquatic ecosystems when controls are not in place or are inconsistently applied.

This section addresses deliberate transfers and introductions. The following issue paper on Exotic Aquatic Species shall address inadvertent introductions.

Background

The introduction of finfishes into Canada began with the intentional movement of common carp into Ontario in 1880. Since then, 71 species have been authorized introductions.

The species most often introduced and transferred are salmonids, centrarchids and percids, mainly for recreational fisheries or aquaculture purposes.

The introduction of coho and chinook salmon from the Pacific coast to the Great Lakes basin has created economically important sport fisheries, however, the Pacific salmon fishery in the Great Lakes has been largely supported on a put-grow-and-take basis using hatchery production. High stocking rates, coupled with decreases in nutrient

input, have created large instabilities in forage fish populations in Lakes Ontario and Michigan in recent years. The continued reliance on the hatchery-based Pacific salmon fishery in the Great Lakes has also compromised managers' abilities to rehabilitate native top predators such as lake trout and Atlantic salmon.

Rainbow trout, which originated west of the North American continental divide, have been introduced to every province in Canada. This salmonid provides the basis for significant recreational fisheries and is an important species in the aquaculture industry. However, rainbow trout have displaced native brook trout through competition in many areas where they have been introduced into the latter species' range.

In addition, malacostracan invertebrates were introduced from Waterton into Kootenay, Arrow and Okanagan Lakes in British Columbia in hopes of enhancing food for kokanee salmon. This introduction has since proved detrimental due to their vertical migration behaviour, which makes mysids unavailable to kokanee. Instead of serving their intended purpose, the mysids became a competitor with kokanee for other prey.

Range extensions are also considered introductions. This occurs when organisms are intentionally released in areas outside their normal range. The negative impacts of range extensions can be significant, even though the organisms may be only just outside their original range. For example, there remains a significant negative impact potential of northern pike on muskellunge when the range of northern pike was extended to the Kawartha Lakes, Ontario, through the Trent Canal system.

Current Situation

The primary federal responsibility for controlling the introduction and transfer of aquatic organisms rests in the habitat protection provisions of the *Fisheries Act* and specific regulations made pursuant to the *Fisheries Act*. These regulations include the Fish Health Protection Regulations and Fishery (General) Regulations. Specific provincial fishery regulations (e.g. Manitoba Fishery Regulations, Alberta Fishery Regulations, etc.), which are made pursuant to the *Fisheries Act* but which are administered by the provinces, also have provisions for controlling the introduction and transfer of aquatic organisms.

Currently there is no uniform structure or standard risk assessment approach among the provinces and territories for approving introductions and transfers. The Atlantic Provinces and British Columbia have formal introduction and transfers committees comprised of federal and provincial members with decision-making by consensus. The Prairie Provinces consult with DFO on a case by case basis and Ontario and Quebec have provincial committees only. Administrators in provinces or regions have often worked independently in preparing local regulations and policies governing introductions and transfers and have addressed only selected species or species groups.

Future Directions

The demand is increasing in Canada to introduce and transfer aquatic organisms into the country, between provinces or territories and, in certain instances, within provinces or territories. With this increased demand there is the potential risk of negative impacts on indigenous species, habitats, and the aquaculture industry. These indigenous species often are ecologically significant or are of national economic and social importance.

The Government of Canada is a signatory to the 1992 Convention on Biological Diversity. Under this United Nations Environment Program (UNEP) convention, Canada is committed to “develop national strategies, plans or programs for the conservation and sustainable use of biological diversity”. A national policy which sets out principles for minimizing negative impacts of introductions and transfers on fisheries resources, habitat, and aquaculture, would be consistent with the federal government’s commitment to the UNEP Convention on Biological Diversity.

As well, the Wildlife Ministers’ Council of Canada adopted, in 1990, A Wildlife Policy for Canada. This Policy, agreed to by the federal government and all provinces and territories, provides a national framework for federal, provincial/territorial and non-government policies and programs that affect wildlife, including fish. The Policy specifically provides guidance in regard to species introductions.

With these commitments and recognizing the need for a standardized approach to risk assessment of introductions and transfers, the Department of Fisheries and Oceans is currently developing a National Policy on Introductions and Transfers of Aquatic Organisms. This is being done in consultations with the provinces and aquaculture industry. Once approved, this national policy will be implemented in cooperation with provincial and territorial governments. There is also a provision in the Policy for consultation with U.S. State governments where an introduction or transfer involves boundary water bodies.

Exotic Aquatic Species

Exotic (alien or non-indigenous) organisms are species that enter ecosystems beyond their natural range through deliberate or inadvertent introduction by humans. Aquatic organisms that have extended their natural range without human intervention are not considered alien.

Many of the non-indigenous aquatic organisms deliberately introduced into Canadian fresh waters or transferred beyond their natural ranges under licence have produced important economic, social or environmental benefits. Of concern, however, are exotic organisms that are unintentionally introduced and that cause or have the potential to cause harmful effects to native biodiversity, fish habitats or the well-being of native aquatic species.

Background

Exotic species have threatened the Great Lakes ever since Europeans settled in the region. Since the 1800s, at least 142 exotic aquatic organisms of all types – including plants, fish, algae and mollusks – have become established in the Great Lakes. As human activity has increased in the Great Lakes watershed, the rate of introduction of exotic species has increased. About one-third of the organisms are thought to have been introduced in the past 30 years, a surge coinciding with the opening of the St. Lawrence Seaway.

Examples of unintentionally introduced fish species include the round goby, the Eurasian ruffe and the sea lamprey. The most familiar examples of exotic invertebrates and plants introduced inadvertently into Canada are the sea lamprey, zebra mussel and Eurasian Watermilfoil.

Exotic aquatic organisms are accidentally introduced into Canada in a number of ways – including aquaculture, bait and ballast water. There is a significant concern with ships' ballast water. Ballast waters are necessary for the safe navigation of vessels in any weather condition. These ballast waters often travel long distances before being discharged into a new environment, so a ship may take on ballast in European or Asian ports and not discharge until reaching its St. Lawrence/Great Lakes destination. A wide variety of fish, invertebrates, aquatic plants and micro-organisms that survive the journey in ballast water have been trans-located internationally in this manner. The ecological and economic impacts of many of the exotic species accidentally introduced into Canadian fresh waters have been profound.

Current Situation

Article 8 of the international Convention on Biological Diversity, ratified by Canada in 1992, identifies preventing the introduction of, controlling or eradicating alien organisms which threaten ecosystems, habitats or species as essential for maintaining biodiversity. With the exception of ballast water, there is little in the way of legislation that specifically controls the accidental introduction of exotic organisms into Canada.

In response to concerns about exotic species expressed by the Great Lakes Fishery Commission, the federal government introduced voluntary guidelines in 1989 for mid-ocean ballast water exchange for ships destined for the Great Lakes/St. Lawrence River. These guidelines were revised for the 1990, 1991 and 1993 shipping seasons and apply to all vessels in ballast wishing to enter ports west of 63° W. In 1993, the U.S. Coast Guard introduced mandatory ballast water exchange requirements for the Great Lakes based on the Canadian guidelines. Through co-operation and integrated enforcement activities of the relevant bi-national agencies there is virtually 100% compliance for these vessels.

Further it must be noted that untreated ballast water meets the definition of a pollutant in Canadian law. False declarations made regarding the exchange of ballast water are an offence and have been successfully prosecuted under the *Canada Shipping Act*.

However, the guidelines apply only to vessels entering the system in ballast, which represents only a small portion of the total vessel trade. The remaining so-called NOBOB (not in ballast vessels) have been identified as the greatest risk with respect to the introduction of exotic species. At the present time, however, there has been no technology identified that can safely and economically be applied to these vessels although numerous researchers are examining the problem.

Future Directions

Once established in a new area, new species are virtually impossible to eliminate. Prevention is the key to controlling the unintentional introduction of exotic species.

Statutory authority for a ballast water management program for prevention was contained in recent amendments to the *Canada Shipping Act*. Bill C15 received Royal Assent on June 11, 1998 and Governor-in-Council authority to regulate ballast water came into force on Oct 31, 1998

Regulations will be written to require effective ballast water management techniques. However, significant research is required to study both the safety aspects and the effectiveness of ballast water management prior to such regulations coming into force.

As a first step in the regulatory process, a working group on ballast water was established Nov 4, 1998 under the aegis of the Canadian Marine Advisory Council (CMAC). This working group will be the primary focal point in the development of any new ballast water regulation. CMAC is a long standing body with representation from Federal government departments (Transport, DFO Science, Canadian Coast Guard), the transportation industry, labour associations, recreational boaters, environmental groups and other interested marine stakeholders

Fisheries and Oceans intends to continue research on the ecological impacts of exotic species.

Freshwater Science

Scientific research within the Department of Fisheries and Oceans allows not only for the acquisition of new knowledge, but it also develops and maintains the scientific expertise necessary to generate and deliver scientific advice. In the context of fresh waters, the mission of the department's Science Sector is to provide timely and reliable scientific information, understanding and advice for:

- Conservation and sustainable use of fish and other living aquatic resources;
- Habitat conservation, restoration and enhancement;
- Fish health protection; and,
- Safe and efficient navigation.

Background

In 1979, Parliament enacted the *Department of Fisheries and Oceans Act* that enabled the creation of DFO as a separate and distinct department to manage the responsibilities for seacoast and inland fisheries and provide the science support for these responsibilities.

The Department of Fisheries and Oceans conducts a wide variety of freshwater research. Work is done in support of responsibilities for the protection and conservation of fish and fish habitats supporting fisheries: for the purposes of this discussion document, one notable distinction is that the department does not undertake research to support fisheries management conducted under delegation arrangements. Work is also done to meet commitments to international and regional initiatives such as the Great Lakes Fishery Commission and the Canada/United States Great Lakes Water Quality Agreement. An emerging responsibility for the Department, under new endangered species legislation, will be the protection and recovery of endangered species under the Minister's jurisdiction.

The largest freshwater science program is located in the department's Central and Arctic Region which covers Ontario, the Prairie Provinces, Nunavut, the Northwest Territories and the Yukon North Slope. These science programs are centred at the Freshwater Institute in Winnipeg, Manitoba (including the Institute's Experimental Lakes Area (ELA) field laboratory near Kenora, Ontario), and at the Great Lakes Laboratory for Fisheries and Aquatic Sciences in Burlington, Ontario. However, freshwater Science is conducted elsewhere, especially in British Columbia in support of anadromous salmon responsibilities.

Current Situation

DFO's original Program Review goal of focusing on oceans and marine fisheries and withdrawing from many freshwater activities has been modified and freshwater continues to be part of DFO's mandate. Two re-allocations to the freshwater science program of the department's Central and Arctic Region during 1996, totaling \$1.8 million, have brought the DFO freshwater science budget reductions in line with those of other DFO programs that were also facing cuts. The reductions of DFO's freshwater science have resulted in re-focusing program priorities and elimination of some activities.

DFO's post-Program Review freshwater science program is now in a good position to provide core science requirements for fresh waters, including the Great Lakes. The Great Lakes freshwater science program is now focusing on fish habitat issues and less on chemical issues. However, the ecotoxicology program will continue to monitor contaminants in fish, maintain the tissue archive, develop multi-trophic Great Lakes energetics models and assess the fate and effects of Great Lakes chemical contaminants.

DFO has also committed to funding the core operations of the ELA, including the long-term monitoring programs. This commitment will ensure that the comprehensive data records collected as part of the long-term monitoring program will continue into their fourth decade. At the same time, this renewed commitment to ELA will enable the operators to reduce the out-of-pocket costs for many users of the ELA facilities, thereby making it easier for visiting researchers to participate in the on-site scientific programs.

DFO is maintaining its stock assessment and related stock assessment research for freshwater species in support of management of freshwater fisheries in Nunavut and the Northwest Territories. In Newfoundland and the Maritimes Regions, DFO continues to provide scientific support for the department's fisheries and habitat management responsibilities for anadromous and catadromous species, while in the Pacific Region, the focus of scientific support is on Pacific salmon.

Future Directions

The department will continue to provide science support for fisheries management where DFO directly manages the fisheries, in the context of greatly reduced budgetary resources available following Program Review. Freshwater science support of DFO's habitat management and *Canadian Environmental Assessment Act* responsibilities will also continue in all regions. In Ontario, DFO will support research into non-chemical methods of controlling sea lamprey.

In May 1998, DFO signed a Memorandum of Understanding (MOU) with Manitoba, Saskatchewan and Alberta on prioritizing fisheries science activities in the Prairie Provinces. The MOU is an enabling document, providing for the development and implementation of a process for establishing federal-provincial freshwater science priorities in the Prairie Provinces.

Boating Safety

There is a large and growing recreational boating community in Canada encompassing as many as 2 to 3 million boats and 10 million recreational boaters. The boating community is placing increased demands for services on all levels of government. Also, it has expressed an interest in becoming involved in defining services and regulatory initiatives appropriate to its needs. This community is a priority target group for safety initiatives, since approximately 50% of search and rescue incidents involve recreational vessels.

Background

In April 1995, the Canadian Coast Guard created the Office of Boating Safety, a branch of the Rescue, Safety and Environmental Response Directorate.

Organizationally, the Office of Boating Safety provides a single point of contact on recreational boating matters. The Office brings together the responsibilities for a safety program designed to reduce loss of life and injury through prevention measures focused on those at highest risk of becoming involved in boating incidents, and the regulatory and technical services regime that applies to recreational vessels. With the integration of regulatory and non-regulatory prevention activities, the Office of Boating Safety brings focus to the full range of efforts to address operator knowledge and proficiency, the standards for the safety of the vessel and associated equipment, and the safe operation of the vessel.

In partnership with the boating community, specific contributions of the Office of Boating Safety include:

- educating boaters on how to minimize their impact on the aquatic environment through the new Green Boat program;
- offering courtesy examinations for small vessels;
- implementing standards for boat construction; and,
- in partnership with the provinces, managing a national framework, which seeks to minimize the safety risks and environmental impacts, associated with boating.

Current Situation

In recent years, the Office of Boating Safety has undertaken a number of initiatives, focusing on the following areas:

- Comprehensive changes to the Small Vessel Regulations;
- Proposed changes to include operator proficiency requirements/ age limitations linked to vessel horsepower;
- Public education and safety awareness programs;
- Improved enforcement; and,
- Working with stakeholders to ensure federal boating regulations are responsive to local needs.

Future Directions

The Office of Boating Safety has identified many of the challenges it will address in coming years. Priorities for the future include:

- Continuing to develop boating safety partnership projects in each region to ensure effective program delivery;
- Improving the design, delivery and analytical basis for prevention and outreach efforts to enhance boating safety;
- Facilitating safe, responsible and enjoyable shared use of Canadian waterways through working with stakeholders to manage usage conflicts; and
- Establishing an improved small vessel identification and operator proficiency regime.

Small Craft Harbours

Mandated under the *Fishing and Recreational Harbours Act* (1973) to provide harbour infrastructure in support of commercial fishers and transient boaters, the Small Craft Harbours (SCH) program of DFO currently administers and maintains a national system of 1,190 commercial fishing harbours and 458 recreational harbours (April 1998).

The program serves over 60,000 fishers, tens of thousands of transient boaters and 2,000 resident communities. Sites vary greatly in size and complexity ranging from isolated mooring buoys to full service harbours. Assets comprise waterlot and upland properties under various forms of tenure and physical infrastructure totaling over 8,100 component structures - for breakwater and shore protection, vessel mooring and launching, product and gear loading/off-loading, vessel and gear storage and repair and on-shore systems and services.

Background

Entering the 1990s, DFO owned and administered 2,133 harbours -- 1308 commercial fishing harbours and 825 recreational harbours. However, particularly in the fishing harbour component, the inventory, comprised of aged or middle aged infrastructure, has rusted out faster than shrinking budgets could address. Spending power has been further eroded by increasing costs for labour, materials and regulatory compliance. Public and environmental safety and departmental liability were rapidly growing concerns. Indicators led to the prospect of wholesale closures within 10 years, with potential profound impact on users and resident communities. Commercial fishermen could lose infrastructure safeguarding millions of dollars in business assets and ready access to fishing grounds. Communities could lose traditional sources of economic and social commerce, for some, their only means of transportation access. Environmental considerations factored heavily as much of the infrastructure safeguarded against coastal erosion and protected marine habitat.

Current Status

DFO is addressing the significant imbalance between available and required funds for maintenance to achieve public safety standards at its harbours. Started in the late 1980s, a program involving shared costs and responsibilities with users has become the cornerstone of the departmental strategy for this issue.

Strategies were focused on reducing the gap between requirements and budget and mitigating the most critical impacts of the rust-out problem through restrictive priority setting and risk management. Program Review verified the continued mandate for fishing harbours, but directed the divestiture of recreational harbours as they were more appropriately tied to provincial and municipal mandates in areas of tourism and local economic development.

Initiatives now in progress include:

- rationalization to core fishing requirements by progressive elimination of recreational harbours and extraneous fishing harbours;

- reduced levels of service;
- sharing costs and responsibilities with stakeholders through progressive installation of Harbour Authorities at active fishing harbours; and,
- technical innovation.

The goal is to keep core fishing harbours open for business and in good repair by redesigning the harbour system into one that is smaller, more supportable and comprised of harbours that are managed and partially financed by users. The program direction is proving successful. By April 1998, the inventory had been reduced by 23% to 1,680 sites (458 recreational and 1,190 fishing sites). Equally important, clients have accepted the challenge to help architect the future.

DFO's goal regarding recreational harbours is to dispose of all sites, by transfer, sale, demolition or permanent closure, by March 31, 2001. Of the original inventory of recreational harbours the majority (78%) were located in Ontario and Quebec; Nova Scotia, New Brunswick and Prince Edward Island accounted for 9%; British Columbia, 7.8%; the Prairies, 5.1%; and, Newfoundland less than 1%. Approximately 60% of the inventory resided on property owned by the provinces and subject to reversionary clause. When divestiture of recreational harbours was first implemented, provinces declined the opportunity to take over the inventory, but have also agreed in principle that they be transferred to interested municipalities. This understanding has governed divestitures to date.

Of the divestitures in progress or completed, virtually all have been nominal fee transfers to the local municipality. Where appropriate, DFO has negotiated and performed harbour repairs to ensure the facility is in a safe operating condition and environmentally clean at the time of transfer. In the majority of cases, these transfers do not impose new operational costs on municipalities who have either been operating the harbour by lease arrangements with DFO or the facility is of the type that does not require operational staff and services. Most transfers are contingent upon a covenant that the harbour will remain as a public-use facility for a specified period.

As of April 1998, Harbour Authorities managed 444 harbours and another 200-300 sites are expected to be under this form of management by 2001. The fishing harbour inventory, numbering 1308 in 1994, was down to 1,190 in April 1998. Reductions to date have not been very visible being largely composed of administrative adjustments rather than physical disposals.

The target now is to progressively eliminate approximately 200 additional sites no longer used or required by the fishing industry but representing an unnecessary future drain on oversubscribed resources. Many are already derelict and barricaded for reasons of public safety. It is hoped that they can be removed from the inventory within 5-10 years, and thus free-up funds for harbours essential to the industry.

Approximately 47 inactive fishing harbours will be disposed of in 1998/99. There will be full and open consultation on all harbour divestitures. The procedure will involve meetings, both formal and informal, with local fishers, the community leaders and fish processors. Offers of nominal-value transfer of the site will be made, in order, to the provincial government, the municipal or regional government and any local not-for-profit

organization. There will be compliance with environmental legislation and regulations. Failing interest from the public and non-profit sector, sites will then be offered for sale to the private sector or in applicable cases be returned to provinces in accord with reversionary agreements if no other interest is found.

There is a downstream effect of changes in fisheries management policy on harbour infrastructure and DFO will refine its vision for the fishing harbour system in direct relation to changes in fishery and fleet. However, while conservation actions will reduce participation in vulnerable species fisheries, this does not necessarily translate into an equivalent reduction in harbour numbers, nor involve a significant reduction in actual maintenance dollar requirement. In fact, overall demand is expected to shift, rather than be substantially reduced. The willingness and ability of clients to share in the responsibility and cost of their harbours in this climate of economic flux will also impact on the viability of Harbour Authorities and the success of strategies to keep core sites open.

Future Directions

Reductions of non-core harbours will move the inventory to less than 1000 active commercial fishing sites by 2001, the majority managed in partnership with Harbour Authorities. The future SCH program will pursue infrastructure rehabilitation and redesign of a nature that will foster the safety, operational efficiency and financial viability of core Harbour Authority sites. The main challenges will be to maintain the impetus, ensuring that contracts made with communities and the industry are honoured and minimizing the impact of inventory removal expenditures on fishing harbour safety maintenance.

The determining factor in continued government support to fishing harbours will be the importance of the harbour to the users as demonstrated by their willingness to share in both the responsibility and the cost. The strategy is based on the premise that the fishers themselves will make the decision regarding the future of their harbours and the type and level of service they are willing to support. Accordingly, the management of harbours by Harbour Authorities (through a lease agreement and set understanding on the division of responsibilities and cost) is a key initiative. Sites not managed by Harbour Authorities will receive little to no financial assistance from the Department and may be removed as they become unsafe.

As of April 1, 1998, the number of recreational harbours had been reduced to 458 (plus 112 sites in final stages of transfer). The timing and rate of progress in divesting the remainder is largely tied to financing for this initiative. The A-base for recreational harbours has long been removed and allocation of internal funding to this initiative is at the expense of fishing harbour maintenance. Plans to divest the remaining recreational harbours by 2001 will be conditional on the availability of incremental funds.

Boundary and Trans-Boundary Initiatives

The Great Lakes - St. Lawrence River System and major rivers such as the Columbia, Yukon, Red and Saint-John are among the almost 300 waterways and aquifers that cross or delineate the Canada-US Border. The majority of the Canadian population lives within these watersheds, with much of Canada's economy directly dependent on the industrial, agricultural, transportation and recreational benefits these resources bring.

While there are many issues between Canada and the United States related to boundary and trans-boundary waters, the relationship between the two countries has generally been amicable and constructive, largely due to the safeguards contained in the *International Boundary Waters Treaty* of 1909 and other treaties and agreements between the two nations.

The trend in increased population, urbanization, and industrial development in boundary and trans-boundary watersheds will place additional pressures on water quality and quantity, and consequently on fishery resources and their habitats. Climate change likely will have profound effects on water resources in these areas. In addition, attention has recently focused on a number of new or emerging issues including the management of shared groundwater resources, flood mitigation, air quality, environmental assessment, exotic species, habitat, and other environmental concerns. These challenges highlight the importance of continuing to use and support international and bilateral mechanisms to prevent and resolve disputes, and of working collaboratively with the United States, provinces and others so that problems can be effectively addressed.

Background

The *International Boundary Waters Treaty* (1909), that established the International Joint Commission (IJC), provides the basic principles for guiding boundary and trans-boundary water relations between Canada and the United States. The IJC serves the parties in helping to prevent and resolve disputes between the two countries in an independent and impartial manner and in providing a mechanism for co-operation and co-ordination in managing shared waterways and in investigating issues of mutual interest or concern.

In addition, agreements between the two countries, such as the Great Lakes Water Quality Agreement (GLWQA) (1972, 1978, 1987) and the Air Quality Accord (1991), and between provinces and states have successfully addressed issues beyond those in the Boundary Waters Treaty in dealing with pollution and other environmental and economic concerns related to shared water resources and ecosystems.

In the area of fisheries enforcement, fisheries officials of the province of Ontario, who have delegated authority under the *Fisheries Act*, work closely with their counterparts in the U.S. to deliver enforcement programs in the Great Lakes.

The federal role has been based on its responsibility for foreign affairs, that is, protecting Canada's interests and meeting its obligations to the United States under these treaties and agreements.

The 1955 Convention on the Great Lakes Fisheries established the Great Lakes Fishery Commission. Among its primary responsibilities, the GLFC plans and implements an annual sea lamprey control program that is delivered by its agents, the US Fish and Wildlife Service and DFO.

The Canadian Coast Guard plays a large role in the management of boundary and trans-boundary waters due to its role in environmental response, search and rescue, icebreaking, and safe navigation (e.g. buoy tending, safe navigational systems). The Canadian Coast Guard also plays a major role in the management of the Lake Ontario and St. Lawrence River levels and outflows, in close collaboration with the IJC by providing the Chair, Secretariat, and other expert support to the International St. Lawrence River Board of Canada.

The Canadian Coast Guard also aids in scientific work on the Great Lakes with CCG ships providing support to DFO Science, DFO Hydrography, as well as supporting work done by Environment Canada

Current Situation

DFO Policy, Science, and CCG programs all contribute to aspects of Canada's obligations for boundary and trans-boundary issues.

DFO Science has made significant contributions to the GLWQA. Program Review determined a reduced role for DFO in freshwater. Several programs were discontinued (e.g. aquatic toxicology and whole lake monitoring and surveillance), and several programs continued at reduced level (funded by B-base) (e.g. contributions to Remedial Action Plans and Lake Wide Management Plans, and fish contaminant surveillance). DFO's post-Program Review freshwater science program provides core science requirements for fresh waters, including the Great Lakes.

The Government of Canada is a signatory to the 1992 Convention on Biological Diversity. Under this United Nations Environment Program (UNEP) convention, DFO is leading in the preparation of a National Policy on Introductions and Transfers of Aquatic Organisms. It will include a provision for consultation with US State governments where an introduction or transfer involves international water bodies.

The sea lamprey control program is delivered by its agents, the US Fish and Wildlife Service and DFO. With guidance from DFO Policy, the DFO portion of the program is delivered from the Sea Lamprey Control Centre in Sault Ste. Marie, Ontario. DFO Science also carries out freshwater research that supports the program.

Boundary and trans-boundary initiatives and agreements undertaken with the United States, which apply to the Canadian Coast Guard, include:

- Canada-United States Great Lakes Water Quality Agreement (1972, 1978, 1987)
- 1998 Revised Canada-United States Joint Marine Pollution Contingency Plan
- United States Coast Guard/Canadian Coast Guard International Treaty for Joint Icebreaking on the Great Lakes

- MOU between the United States and the Canadian Coast Guard concerning co-operative efforts in Recreational Boating

Future Directions

DFO will continue to have a role in boundary and trans-boundary matters, protecting Canada's interests and meeting its obligations to the United States under formal treaties and agreements.

NEXT STEPS

This work is intended to meet DFO commitments to the NCFM. It provides one building block for a renewed national vision for fresh waters. It is being transmitted to the Provinces and Territories as a discussion document.

Provinces and Territories will have the opportunity to prepare a corresponding statement of their roles and responsibilities.

Opportunities to advance the national initiative should follow.

ANNEX: FEDERAL FRESHWATER LEGISLATION AND AGREEMENTS

ACT/AGREEMENT	RELEVANCE (to Freshwater)
<i>Canada Shipping Act</i>	Authority relating to shipping and navigation in inland and territorial waters, and provides for prevention of pollution to Canadian waters by oil and other pollutants resulting from marine activities.
Canada-British Columbia Agreement on the Pacific Salmon Fishery	Establishes a Canada-British Columbia Council of Fisheries Ministers and defines their responsibilities regarding salmon allocation; establishes Pacific Fisheries Resource Conservation Council and a Fishery Renewal Advisory Board; outlines improvements in fish habitat protection activities and commitments to negotiate a federal-provincial Habitat and Protection and Fisheries Enforcement Agreement.
Canada-British Columbia Agreement on Environmental Assessment Co-operation	Provides for federal-provincial coordination of respective environmental assessment process for promotion of effective, efficient, consistent and co-operative environmental assessment by Canada and British Columbia and for avoidance of uncertainty and duplication.
Canada-British Columbia Understanding concerning Federal and Provincial Responsibilities in Oil and Hazardous Material Spills.	Identifies lead agency roles and responsibilities and establishes a 24-hour spill reporting system. (DFO not party to this 1981 agreement).
Canada-Ontario Fisheries Agreement	General fishery agreement on administrative responsibilities for the management of freshwater fisheries between Canada and the Province of Ontario.
Canada-United States Great Lakes Water Quality Agreement	GLWQA is intended to restore and maintain the chemical, physical and biological integrity of the Lakes. Each country has developed policies and procedures to achieve those goals.

ACT/AGREEMENT	RELEVANCE (to Freshwater)
Canada-United States Joint Marine Pollution Contingency Plan (1998 Revised)	Provides for a coordinated system for responding to discharges or threat of discharges of harmful substances in the contiguous waters of interest between Canada and the United States.
Canada-Yukon Accord for Freshwater Fisheries Management	Transfers administrative responsibilities for the management of freshwater fisheries from Canada to the Yukon.
<i>Canadian Environmental Assessment Act</i>	Sets out responsibilities and procedures for the environmental assessment of projects involving the federal government.
<i>Canadian Environmental Protection Act</i>	Provides for life cycle control of toxic substances, controls for nutrients, and promotion of pollution prevention.
<i>Constitution Act</i>	Defines federal and provincial jurisdiction in freshwater.
<i>Department of Fisheries and Oceans Act</i>	Establishes the Department of Fisheries and Oceans. Assigns matters such as sea-coast and inland fisheries to the department.
<i>Freshwater Fish Marketing Act</i>	Establishes a crown corporation with exclusive right to market and trade in fish in inter-provincial and export trade.
<i>Fisheries Act</i>	Provides for the regulation of fishing and management of fish stocks, including provisions for controlling obstacles to fish passage, water for the safety of fish, protection of fish habitat from physical impacts, control of deposition of substances deleterious to fish populations, and regulations covering waste effluent standards for industrial groups.
<i>Fishing and Recreational Harbours Act</i>	Respecting the administration and development of certain fishing and recreational harbours in Canada.
<i>Great Lakes Fishery Convention Act</i>	Affirms the need for Canada and the United States to collaborate on protection and perpetuation of Great Lakes' fisheries resources, creates the Great Lakes Fishery

ACT/AGREEMENT

RELEVANCE (to Freshwater)

Gwich'in Comprehensive Land Claim Settlement Agreement

Commission.

Sets out the terms of the land claims Agreement between the Gwich'in Tribal Council, representing the Gwich'in, and the Government of Canada, representing all citizens of Canada.

Legislative Base for Office of Boating Safety

Part III Section 41 of the *Oceans Act*, and Part IX Section 562 and Part XV Section 656 of the *Canada Shipping Act*.

Navigable Waters Protection Act

Protects the public right to navigation and provides authority to control construction and dumping of wastes where they might interfere with navigation in navigable water.

Nunavut Land Claims Agreement

Sets out the terms of the land claims Agreement between the Tungavik Federation of Nunavut, representing the Inuit of the Nunavut Settlement Area, and the Government of Canada, representing all citizens of Canada.

Oceans Act

The Act sets out the responsibilities for the development of a strategy to create a co-ordinated ocean governance framework; to improve the understanding and protection of the integrity of the ocean ecosystems; to optimize the Canada's ocean's potential; and to engage the public in the sustainable use of coastal resources.

Office of International des Épizooties (OIE) Aquatic Animal Health Code

The OIE is mandated to foster sharing of national animal health information, particularly for international trade.

International Boundary Waters Treaty Act

Implements the Canada-U.S. Boundary Waters Treaty, which establishes the IJC and addresses issues of level, flow and quality of water on and along boundary between Canada and the United States.

International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990

Provides a global framework for international cooperation in combating major incidents or threats of marine pollution. Canada is a signatory and has

ACT/AGREEMENT

RELEVANCE (to Freshwater)

International Convention for the Prevention of Pollution from Ships (MARPOL 73/78)

adopted the International Convention.

MARPOL covers all aspects of pollution from ships, except the disposal of waste into the sea by dumping, and applies to ships of all types, although it does not apply to pollution arising out of the exploration and exploitation of sea-bed minerals.

Inuvialuit Agreement

Sets out the terms of the land claims Agreement between the Committee for Original Peoples' Entitlement, representing the Inuvialuit of the Inuvialuit Settlement Region, and the Government of Canada, representing all citizens of Canada.

James Bay and Northern Quebec Agreement

Sets out the terms of the land claims Agreement between the Cree and Inuit of James Bay and Northern Quebec and the Government of Canada, representing all citizens of Canada.

Sahtu, Dene and Metis Comprehensive Land Claim Agreement

Sets out the terms of the land claims Agreement between the Sahtu Dene and Metis and the Government of Canada, representing all citizens of Canada.

USCG/CCG International Treaty for Joint Ice Breaking in the Great Lakes

Provides for co-ordination of icebreaking activities of the Government of Canada and the United States in the Great Lakes and is intended to increase efficiency in the utilization of icebreaking resources in those waters.

Yukon Native Land Claims Umbrella Final Agreement

Sets out the terms of the land claims Agreement between the First Nations of the Yukon and the Government of Canada, representing all citizens of Canada.

